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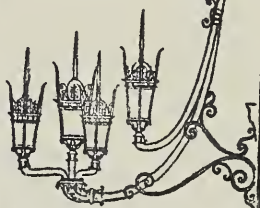


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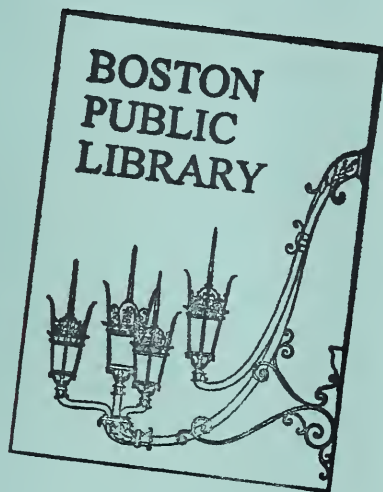
FINAL ENVIRONMENTAL IMPACT REPORT

For

DUDLEY TRIANGLE NEIGHBORHOOD
Roxbury, Massachusetts

Project Proponent

DUDLEY STREET NEIGHBORHOOD INITIATIVE
Roxbury, Massachusetts



Prepared by

Beals and Thomas, Inc.
Westborough, Massachusetts

Rackemann, Sawyer and Brewster
Boston, Massachusetts

Rackemann Environmental Services, Inc.
Boston, Massachusetts

Vanasse Hangen Brustlin, Inc.
Watertown, Massachusetts

April 1993

**DUDLEY TRIANGLE NEIGHBORHOOD
FINAL ENVIRONMENTAL IMPACT REPORT**

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TECHNICAL SUPPLEMENT* Separate Document

Environmental Site Assessment
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Purcell Traffic Study

* This supplement and a copy of the Draft Environmental Impact Report are available on request, contact Robert Weidknecht, Beals and Thomas, Inc., Two Westborough Business Park, 200 Friberg Parkway, Westborough, Massachusetts 01581, (508) 366-0560.

We have added comment numbers in the left margin to facilitate the review of the Responses to the Comments in Section 4.0.



The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street, Boston, 02202

WILLIAM F. WELD
GOVERNOR

ARGEO PAUL CELLUCCI
LIEUTENANT GOVERNOR

SUSAN F. TIERNEY
SECRETARY

January 15, 1993

(617) 727-9800

RECEIVED

JAN 21 1993

BEALS AND THOMAS, INC.

Mr. Robert E. Weidknecht
Project Manager
Beals and Thomas, Inc.
Two Westborough Business Park
200 Friberg Parkway
Westborough, MA 01581-3911

Re: EOEa #7963 - Dudley Triangle Neighborhood - Boston(Roxbury)

Dear Mr. Weidknecht:

This letter is in response to your letter of January 5, 1993, requesting approval of your approach in completing the Final Environmental Impact Report (EIR) for the Dudley Triangle Neighborhood project. You have met with the Boston Redevelopment Authority (BRA) to further clarify its comments on the Draft EIR in the hopes of avoiding unnecessary work for this cost-sensitive project. The BRA issued a letter on December 19, 1992 clarifying its comments and the level of information necessary to address its issues of concern on the Draft EIR. At this time, you are requesting that the MEPA Unit concur that:

1) The BRA's suggested approach will be acceptable for the Final EIR;

2) The Final EIR be prepared as a response to comments outlined in the Draft EIR Certificate (scope) of June 28, 1991, rather than a revision to the entire Draft EIR document;

3) The Final EIR will refer to the Draft EIR on those sections where no response is needed; and

4) The 95 pages of environmental assessments, which were requested by the BRA, be provided as a supplement on request rather than to be provided to everyone on the distribution list.

After reviewing the above mentioned letters and the Secretary's Certificate on the Draft EIR, I have determined the following responses:

Mr. Robert E. Weidknecht
January 15, 1993
Page 2

1) The BRA's suggested approach is adequate for addressing its comments, but the project proponent is advised to follow the Secretary's Certificate on the Draft EIR and to resolve all of the issues contained within the Certificate in order for the Final EIR to be deemed adequate.

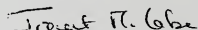
2) The Final EIR may be prepared as a response to comments outlined in the Draft EIR Certificate rather than a revision to the entire Draft EIR document. However, copies of the Draft EIR should be made available to any party requesting such information.

3) The Final EIR may refer to the Draft EIR for those sections where no response is needed.

4) The 95 pages of environmental assessments, which were requested by the BRA and the MEPA Unit, will be provided to the MEPA Unit and the BRA. These environmental assessments will also be forwarded as a supplement on request rather than to be provided to everyone on the distribution list. Furthermore, I am requesting that the Final EIR provide a copy of this letter after the Draft EIR Certificate and a distribution list, which identifies what has been sent to each recipient.

I recommend that the proponent review 301 CMR 11.07 to insure compliance with the MEPA Regulations. This office will review your Final EIR according to the Draft EIR Certificate to insure that all environmental issues identified are adequately addressed.

Sincerely,



Janet McCabe, Director
MEPA Unit

cc: Richard B. Mertens, BRA

JM/WTG/wg

BEALS AND THOMAS, INC.

Two Westborough Business Park
Tel. 508-366-0560

200 Friberg Parkway

Westborough, Massachusetts

01581-3911

Fax: 508-366-4391

January 5, 1993

Mr. William Gage
Executive Office of Environmental Affairs
MEPA Unit
100 Cambridge Street
Boston, Massachusetts 02202

Via: Certified Mail, Return Receipt Requested P 312 584 828

Reference: EOEA No. 7963: Dudley Triangle Neighborhood
Roxbury, Massachusetts
BTI Project No. W-384.07

Dear Mr. Gage:

On behalf of Dudley Street Neighborhood Initiative, we are writing to request approval of our approach to the Final Environmental Impact Report for the Dudley Triangle project. The Secretary of Environmental Affairs issued the Certificate on the Draft Environmental Impact Report on June 28, 1991. Although eight comment letters were received on the Draft, five letters were fully supportive of the project and required no further action or responses. The BRA letter outlined the primary substantive comments which had to be addressed in the FEIR as it also summarized the comments of BWSC and Boston Environment Department. We have since met with the Boston Redevelopment Authority to further clarify its comments on the DEIR in hopes to avoid unnecessary work in order that the limited funds can be used for the project rather than consulting. The BRA issued a letter on December 19, 1992 clarifying the comments and level of information necessary to address the issues of concern. We have enclosed a copy of the letter for your reference. We request that the MEPA Unit concur with the approach BRA will find acceptable for the FEIR.

Additionally, to reduce reproduction costs, we request that the Final EIR be prepared as a response to the comments outlined in the scope rather than as a revision to the entire Draft EIR document. We will refer to the Draft Environmental Impact Report on those sections where no response is needed. The Dudley Street Neighborhood Initiative would like to avoid the method previously requested since it results in significant reproduction costs to this cost-sensitive project.

Lastly, we request that the 95 pages of environmental assessments that were requested by the BRA be provided as a supplement on request rather than to be provided to everyone on the distribution list.

Very truly yours,

BEALS AND THOMAS, INC.


Robert E. Weidknecht, RLA
Project Manager

Encl. Letter from Boston Redevelopment Authority dated December 19, 1992

cc. Sue Beaton, Dudley Street Neighborhood Initiative

BOSTON
REDEVELOPMENT
AUTHORITY

Raymond L. Flynn

Mayor

Clarence J. Jones

Commissioner

Paul L. Barrett

Director

One City Hall Square
Boston, MA 02201
TEL: 617-722-1200
FAX: 617-267-3916

December 19, 1992

Janet McCabe
Director, MEPA Unit
Executive Office of
Environmental Affairs
100 Cambridge Street
Boston, MA 02202

Dear Janet:

Re: EOE No. 7963 - Dudley Triangle Neighborhood

On December 9, 1992, the Boston Redevelopment Authority met with members of the Dudley Street Neighborhood Initiative (proponent of the Dudley Triangle Neighborhood project) and their consultants to discuss their approach to addressing the BRA's comments on the Draft Environment Impact Report, as incorporated into the Secretary's Certificate on the DEIR, dated June 28, 1991. As a result of that meeting, the BRA agreed on an approach, as more specifically outlined below, which would satisfy the issues raised in our comments. This approach would involve a clarification of the issues and explanation of the assumptions used in the DEIR and would not require additional research or studies (as was also explicitly stated in our comment letter).

Transportation Analysis

- (1) The use of 1980 Census data (with 1985 updating) will be explained. No reanalysis using 1990 Census data (which in any case are not fully available) will be required.
- (2) Differences in peak hour LOS between the VHB study and an earlier Purcell Associates study will be explained.
- (3) A qualitative evaluation of the West Cottage Street/Blue Hill Avenue intersection will be presented; no intersection analysis will be required.

JB15/05.LTR
122192/1

- (4) A summary of mitigation measures (including a status report) as outlined in the Purcell study, will be included in the FEIR.
- (5) The Purcell study, or appropriate sections therefrom, will be included in an appendix.

Flooding Issues

- (1) A map will be provided to show the area of low topography where flooding may occur and the location of proposed buildings. Detailed flooding calculations to determine flood levels will not be required.
- (2) Potential mitigation measures to minimize possible flooding problems to which the project proponent will commit will be described.

Stormwater/Sewer

- (1) Sewage flow estimates from the non-residential portions of the project will be provided.
- (2) Adequacy of the existing utility systems will be determined in consultation with the Boston Water and Sewer Commission.
- (3) Conservation and mitigation measures to reduce sewage flows and manage stormwater discharges which the project proponent will consider and/or commit to will be described.

21E Studies

- (1) A map of the 21E sites investigated will be provided.
- (2) Copies of the 21E reports will be provided as a Technical Appendix.

General

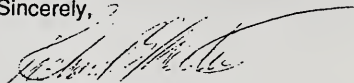
All other comments in the BRA comment letter will be addressed and corrections, as noted, will be made.

Accordingly, we would request that you concur that the approach as described above would satisfy the requirements for the Final EIR contained in the Secretary's Certificate insofar as they relate to the comments submitted by the BRA on the Draft EIR.

JB15/05.LTR
122192/2

Should you have any questions or wish to discuss this further, please feel free to call me (722-4300, Ext. 4283).

Sincerely, ?

A handwritten signature in dark ink, appearing to read 'Richard B. Mertens', with a long, sweeping horizontal line extending to the right.

Richard B. Mertens
Environmental Review Officer

cc: Sue Beaton (DSNI)
Robert E. Weidknecht (BTI)
Melissa Mintz (VHB)

JB15/05.LTR
122192/3



The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street, Boston, 02202
JUL 3 1991
BEALS AND THOMAS, INC

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WILLIAM F. WELD
GOVERNOR

June 28, 1991

BEALS AND THOMAS, INC

ARGEO PAUL CELLUCCI
LIEUTENANT GOVERNOR

(617) 727-9800

SUSAN F. TIERNEY
SECRETARY

CERTIFICATE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS
ON THE
DRAFT ENVIRONMENTAL IMPACT REPORT

PROJECT NAME : Dudley Triangle Neighborhood
PROJECT LOCATION : Blue Hill Ave., Dudley St., &
Brookford St. - Roxbury
EOEA NUMBER : 7963
PROJECT PROPONENT : Dudley Street Neighborhood Initiative
DATE NOTICED IN MONITOR : May 22, 1991

The Secretary of Environmental Affairs herein issues a statement that the Draft Environmental Impact Report (EIR) submitted on the above project adequately and properly complies with the Massachusetts Environmental Policy Act (G. L., c. 30, s. 61-62H) and with its implementing regulations (301 CMR 11.00).

The proposed project consists of the construction of about 339 low, moderate, and market rate housing units, commercial retail space, community service facilities, and a Town Common along with space for off-street parking and play areas. It will be constructed in four phases. A Final Record of Decision, dated January 10, 1990, granted a Phase I waiver. As required by the FROD, this EIR addresses the entire project.

The proposed project will redevelop approximately 22 acres within a 60 acre area. It is a triangular area which begins at the intersection of Dudley Street on the east and Blue Hill Avenue on the west and extends southerly for about one-half mile along both main streets. Approximately 14.7 acres are owned by the City of Boston, and the remaining 7(+) acres are in private ownership. The proponent has been designated by the Boston Redevelopment Authority (BRA) pursuant to G.L. c. 121A with status as a redevelopment corporation with eminent domain powers in order to acquire this privately held property.

1

The Final EIR should include a total build-out of the project, including more details and plans for the number of square feet (sf) of commercial retail space, the recreation

center, the two community service facilities, and the mid-rise elderly housing complex. What specifically is being planned for the two 30,000 sf community service facilities? What will be the estimated number of vehicle trips which each of these facilities will generate? A zoning map displaying the project area should be included as well as a brief discussion of the potential full development of the site and the applicable zoning regulations and requirements. As the proponent finalizes its commercial retail space and community facilities space, some discussion should be included in the Final EIR regarding Saturday traffic impacts. If more recent traffic accident data is available from the Massachusetts Department of Public Works, this data should be included in the Final EIR. Additional information regarding the analysis of the traffic signal warrants should be presented in the text or in an appendix of the Final EIR. Furthermore, if the Purcell Associates traffic study is considered important to the Final EIR, then the proponent should include the study or relative portions of it as an appendix. The Draft EIR seems to assume that a reviewer will be familiar with this study, and this is not the case.

The Final EIR should justify the 60 percent trip reduction rate. This reduction is based on what may be obsolete vehicle ownership and journey-to-work data. I am not convinced that a 60 percent trip reduction rate is appropriate. Furthermore, I do not have confidence in the Draft EIR's assumption that all retail trips at the project site will be made by walking. I believe that some of these internal trips will be made by auto. I also wonder how many vehicle trips will be attracted to the community service facilities and the recreation center as well as to the retail uses. The level of trips generated will depend on the specific services proposed, and some estimates should be made by the proponent in the Final EIR. The Final EIR should elaborate on the roadway improvements proposed in the mitigation section. It should clearly describe mitigation measures for parking, public transportation, and roadway and intersection improvements, and it should describe the responsible party. The proponent should also review the EOE/EOC Guidelines for EIR/EIS Traffic Impact Assessment before completing the Final EIR.

I commend the proponent's water conservation plan as particularly detailed and well constructed. I also encourage the proponent to investigate on-site infiltrative drainage systems in site specific areas where they may prove very beneficial. According to the Boston Water & Sewer Commission (BWSC), the existing combined sewer in the area has adequate capacity for sanitary and dry weather flow. However, the ability of the

- 11 combined sewers to handle wet weather flows is not known. The
12 BWSC has requested the proponent to identify where street
flooding may occur. It encourages the proponent to consider using
leaching catch basins, dry wells, and other limited on-site
detention. The proponent should propose solutions to identified
13 flooding problems. Unless the proponent can propose measures such
as a dry well to prevent flooding in these areas, it should
consider these sites for open space.

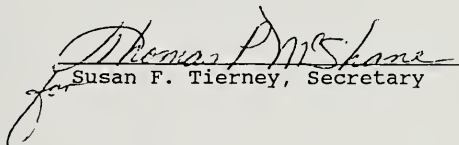
- 14 In the Draft EIR, the proponent has agreed to provide the
Boston Landmarks Commission (BLC) with review and comment
opportunity on the design and siting of proposed infill housing.
As indicated, any designated landmarks will meet BLC standards
and must pass its design review process. In addition, the
proponent has also agreed that all open space development and
rehabilitated space in the Town Common area will be submitted for
review and comment to the BLC. I direct the proponent to contact
15 the City Archaeologist on a case-by-case basis to mitigate
possible impacts on archaeological resources.

- 16 The proponent should revise the project location to read
"Roxbury" on the cover and anywhere else. The Final EIR should
update the project's public and private committed and projected
funding sources. Of the state grants mentioned in the Draft EIR,
17 such as the Town Common Grant, the Urban Renewal Development
Grants, and the Chapter 707 Rent Subsidy Program, are they still
available given state funding problems? I direct the proponent to
include its 21E Hazardous Waste Investigation as an appendix in
the Final EIR as the BRA requested.

- 18 I request that the project proponent address all comments in
the "comments received" below. I encourage the proponent to
continue to work closely with the participants in this vital
project to rehabilitate a portion of the Roxbury community. The
proponent should include the missing supplemental information and
provide more clarity in identifying and justifying some of the
assumptions in the Draft EIR.

June 28, 1991

DATE


for Susan F. Tierney, Secretary

Comments received : MAPC, 6/13/91
The Community Builders, 6/17/91
Project Hope, 6/19/91
BWSC, 6/20/91
Boston Environment Dept., 6/21/91
EOTC, 6/24/91
BRA, 6/24/91
Boston Public Facilities Dept., 6/24/91

SFT/WTG/wg



Metropolitan Area Planning Council

60 Temple Place, Boston, Massachusetts 02111 617/451-2770

Serving 101 cities and towns in metropolitan Boston

June 13, 1991

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JUN 21 1991

MEPA

The Honorable Susan F. Tierney, Secretary
Executive Office of Environmental Affairs
MEPA Unit
100 Cambridge Street
Boston, MA 02202

Project Identification

Project Name:	Dudley Triangle Neighborhood	EOEA: #7963
Project Proponent:	Dudley Street Neighborhood Initiative..	MAPC: #DEIR-91-42
Location:	West Roxbury	Received: 5/23/91

Dear Secretary Tierney:

The Metropolitan Area Planning Council regularly reviews development proposals deemed to have regional impacts. These proposals are reviewed for compliance with MetroPlan 2000, the regional plan for the Boston metropolitan area as well as for their impact upon the environment. The Council encourages MEPA to ensure that any proposed mitigation complies with MetroPlan 2000.

In reviewing the Draft Environmental Impact Report for Dudley Triangle Neighborhood, the MAPC finds the project in conformance with the central goals of the regional plan -- to develop compact, mixed use projects which promote a reduction in the use of automobile dependency. Additional concerns of MetroPlan 2000 focus on the development of adequate affordable housing for the region and on increasing the supply of open space in areas experiencing a deficit.

Franklin G. Ching, *President*

Marjorie A. Davis, *Vice-President*

Martha K. Gjesteb, *Secretary*

Jay J. Donovan, *Treasurer*

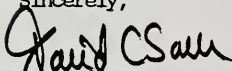
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David C. Soule, *Executive Director*

We believe the DEIR for the Dudley Triangle Neighborhood adequately addresses all the areas outlined in the former Secretary's Final Record of Decision dated January 10, 1990. These include identification of impacts and mitigation efforts for traffic, sewer discharges and storm water run offs, water use and conservation plans, and historical and archaeological resources in the vicinity.

We concur with the proponent that, given the existing conditions in the neighborhood, the project will have a positive impact by revitalizing the area.

Sincerely,

A handwritten signature in dark ink, appearing to read "David C. Soule". The signature is fluid and cursive, with the first name "David" being more prominent and the last name "Soule" following in a similar style.

David C. Soule
Executive Director

cc: Dudley Street Neighborhood Initiative
Richard Dimino,, MAPC Representative
Carol Baldassari, MAPC staff

(DEIR-DUDLEY:CB)



THE
COMMUNITY
BUILDERS

Boston, Philadelphia, Providence, Springfield

June 17, 1991

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JUN 20 1991

MEPA

Secretary Susan F. Tierney
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02202

Patrick E. Clancy
Executive Director

RE: EOEa - DRAFT EIR #7963

Dear Secretary Tierney:

OFFICERS

Stephen H. Anthony
President
John F. Bok
Vice President
Jonathan M. Keyes
Treasurer
Christopher L. Noble
Clerk

BOARD OF DIRECTORS

Oliver F. Ames
Stephen H. Anthony
John F. Bok
Phillip L. Clay
F. Douglas Cochrane
Saundra M. Graham
Sandra C. Howell
Jonathan M. Keyes
Edward H. Marchant
Christopher L. Noble

I am writing to express the support of our organization for the proposed redevelopment of the Dudley Triangle which is outlined in the above-captioned Draft EIR.

It is our view that rebuilding neighborhoods on established utility and street grids at a scale and in a style compatible with what survives as functioning housing is the socially and environmentally most sound approach. Although extensive in scope, the Dudley redevelopment will be very low profile in its impact on the environment because the streets, sewers, drains, water, gas and electric service are already in place to serve neighboring dwellings. Almost all utilities are oversized for the current demand which is greatly reduced from the peak use it was built for in the middle of the century.

The quality of the human environment will greatly improve as a result of this redevelopment since the vacant lots it will occupy are currently the site of unauthorized dumping, auto oil changes, criminal activity, and visual blight.

We urge you to approve this redevelopment in a timely fashion so that the effort can proceed to funding and construction starts and achieve its goals as soon as possible.

Developing, financing and
managing affordable housing
and commercial properties.

Sincerely,

Peter R. Munkenbeck
Managing Director for
Development and Finance

PRM/am

cc: Gus Newport
Kelley Brown

The Community Builders, Inc.
100 Berkeley Street, Suite 100
Boston, MA 02111

PROJECT HOPE

45 Magnolia Street
Dorchester, MA 02125
(617) 442-1880

June 19, 1991

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JUN 24 1991
MEPA

Sec. Susan F. Tierney
Executive Office of Environmental Affairs
100 Cambridge St.
Boston, MA 02202

Dear Secretary Tierney:

After reading the Draft Environmental Impact Report (DEIR) for the Dudley Triangle Project of the Dudley St. Neighborhood Initiative (DSNI), we at Project Hope offer our strong support for its acceptance.

Project Hope has been part of the planning and development process of DSNI since its inception in 1984. We, along with many residents and neighborhood groups, have worked with outside technical assistance to put in motion a development plan for the Dudley St. Triangle that is sensitive to both the physical and human components of development. The neighborhood has spent hours at meetings reviewing plans, making suggestions and eventually scaling back a very ambitious 500 unit building schematic for a much less dense 364 unit one that takes into consideration open space, traffic patterns, and an overall human development planning process. This is a plan that the neighborhood wants.

We believe that we have been accountable and responsible in our planning efforts. The report assembled by Beals and Thomas, Inc., Rachemann, Sawyer and Brewster, and Vanasse Hangen Brustlin, Inc. is a clear demonstration of how seriously the Dudley St. Neighborhood Initiative is in pursuing a plan of development respectful of all environmental considerations.

We welcome your support and look forward to the rebuilding process.

Sincerely,

Sr. Susanne Beaton

Sr. Susanne Beaton

**Boston Water and
Sewer Commission**

425 Summer Street
Boston, MA 02210-1700
617-330-9400
Fax 617-330-5167

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JUN 21 1991
MEPA



June 20, 1991

Ms. Susan F. Tierney
Secretary
Executive Office of Environmental Affairs
100 Cambridge Street, 20th Floor
Boston, MA 02202

Attn: MEPA Unit

Re: Dudley Triangle Development Project, DEIR
EOEA No. 7963

Dear Ms. Tierney:

The Commission has reviewed the Draft Environmental Impact Report (DEIR) for the Dudley Development Project. The project includes about 339 affordable housing units, community facilities buildings, a town common along with space for off-street parking and play areas. The project will be constructed over four phases. In the final decision of record, dated January 10, 1990, phase 1 has been waived by MEPA.

The Commission has discussed with the proponent a number of issues and concerns. The primary considerations are water conservation and combined sewer flows during wet weather.

The water conservation plan uses low flow fixtures and toilets as well as landscape plantings that are tolerant of drier conditions.

Using Title V, the sanitary flow from the project will be 102,630 gallons per day (gpd). The existing combined sewer system in the area has adequate capacity for the sanitary or dry weather flow. The ability of the combined sewers to handle flows during wet weather is not known.

18 | The DEIR indicates that some localized street flooding occurs in the area. The proponent is requested to identify where street flooding may occur under the proposed conditions.

19 | The proponent is aware of our interest in minimizing the stormwater runoff discharged to the combined sewer. The Commission strongly encourages the use of leaching catch basins, dry wells and limited on-site detention.

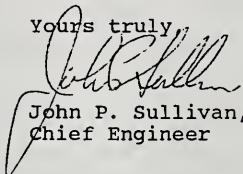


Ms. Susan F. Tierney
June 20, 1991
Page 2

20 | The Commission will require separate sanitary and stormwater connections to the combined sewers.

Thank you for the opportunity to comment on this project.

Yours truly,


John P. Sullivan, Jr., P.E.
Chief Engineer

JPS/PK/mo

cc: Richard Mertens - BRA
Stephan Shea - BWSC
Patrick J. Foley - BWSC



The Commonwealth of Massachusetts

Executive Office of Transportation & Construction

Office of the Secretary

10 Park Plaza, Room 3510

Boston, MA 02116-3369

Telephone 973-7000

TDD (617) 973-7306

Telefax (617) 523-6454

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JUN 24 1991

MEPA

DATE COMMENT

EOTC #:91-0618

() ENF
(x) DEIR
() FEIR
() PROJ. CHANGE

#7963

() SUPP. DEIR # _____
() SUPP. FEIR # _____
() TRAF. STUDY # _____
() OTHER

DATE RECEIVED: 5-23-91

COMMENTS DUE: 6-21-91

TOWN/CITY WEST ROXBURY, MASSACHUSETTS

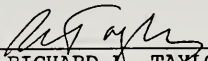
PROJECT PROPONENT Public Facilities Department/
Dudley Street Neighborhood Initiative
15 Beacon St., Boston, MA

PROJECT DESCRIPTION: DUDLEY TRIANGLE NEIGHBORHOOD, ROXBURY, MA.
The proposed project is the redevelopment of 30+ acres located throughout a triangular area which begins at the intersection of Dudley St. and Blue Hill Ave. and extends southerly for about one-half mile along both main streets. The project will involve the construction of 339 affordable housing units, a day care and teen center and internal roadway improvements.

COMMENTS: (x) YES

() NO

DATE: _____


RICHARD L. TAYLOR,
SECRETARY



The Commonwealth of Massachusetts
Executive Office of Transportation & Construction
Office of the Secretary

William F. Weld
Governor

A. Paul Cellucci
Lieutenant Governor

Richard L. Taylor
Secretary

10 Park Plaza, Room 3510

Boston, MA 02116-3969

Telephone 973-7000

TDD (617) 973-7306

Telefax (617) 523-6454

**EOTC COMMENTS ON THE DEIR FOR DUDLEY TRIANGLE NEIGHBORHOOD
ROXBURY, MA
EOEA #7963**

EOTC has reviewed the DEIR for the proposed Dudley Triangle Neighborhood in Roxbury, MA. The project would involve the construction of 339 residential units as well as community facility buildings and the establishment of a Town Common. The project site is a 22-acre parcel of vacant land which lies within the overall 60-acre Dudley Triangle Neighborhood. The site is bounded by Dudley Street on the east and Blue Hill Avenue on the west. The project has been downsized somewhat from the ENF which originally called for 370 housing units.

The proponent's traffic study has provided analysis for two scenarios: the first assumes a 60 percent reduction in trip rates while the other uses the full, unadjusted ITE rates. The proponent has also assumed that under future build 1996 conditions, the Blue Hill Avenue and Dudley Street Urban Systems improvements would be in place. Under the worst case traffic generation scenario, the Dudley Street/Hampden Street and Dudley Street/Blue Hill Avenue/Magazine Street intersections would operate at acceptable levels of service with these improvements in place. The current Urban Systems schedule calls for these improvements to be completed by 1996.

EOTC supports the revitalization efforts of the Dudley Triangle Neighborhood area. The Dudley Triangle is an area which has long suffered from abandonment and decay. The provision of affordable housing, community facilities and open space would better serve the community and meet area needs. The MBTA has recently initiated the Dudley Station Reconstruction project. This Reconstruction project is being undertaken to provide area residents with a "first-class" transportation facility and thereby help spur redevelopment of the Dudley

area. As Dudley Station will likely provide public transportation needs for many Dudley Triangle Neighborhood residents, both projects should have a combined positive impact on the community.

6-14-91
mtv



**City of Boston
The Environment
Department**

Raymond L. Flynn
Mayor

Lorraine M. Downey
Director

Boston City Hall/Rm 805
Boston, Massachusetts 02201
617/725-4416 or 725-3850

June 21, 1991

Secretary Susan Tierney
Executive Office of Environmental Affairs
100 Cambridge St. 20th Floor
Boston, MA 02202

RECEIVED
JUN 19 1991

MEPA

Attn: Bill Gage, MEPA Unit
RE: EOEa #7963, Dudley Triangle Initiative, Roxbury

Dear Secretary Tierney:

The City of Boston Environment Department has reviewed the DEIR for the project referenced above and hereby submits the following comments in response thereto:

The location of the proposed project is in a neighborhood which would benefit from the revitalization of vacant parcels. The proposed project should provide a stimulus for positive growth in the area. The long-term socio-economic impacts are therefore positive. There are a few points which need to be made before MEPA review is complete, however.

21

A description of the proposed ancillary retail space is not presented in great detail in the DEIR. It is our understanding that the retail focus will be very local and oriented almost exclusively towards serving residents of the Dudley Triangle neighborhood. Since traffic impacts on study intersections from development of retail space was assumed to be zero in the DEIR, only a local focus for the retail space would be consistent with the presentation in the DEIR.

As per an agreement between the City of Boston Public Facilities Department and the Boston Landmarks Commission, the proponent will be consulting with the Landmarks Commission on a case-by-case basis for guidance in developing new structures which are in keeping with the historic character of the surrounding area. Adherence to this agreement will effectively mitigate the impacts of this project on historic resources.

22

Although not formally a condition of the BLC/PFD agreement, the proponent should also contact the City Archaeologist at 725-3850 on a case-by-case basis to mitigate possible impacts on archaeological resources, as some sites within the Dudley Triangle could potentially be archaeologically significant. The Secretary's Certificate should formalize this contributory role of the City Archaeologist for mitigation of a potential project impact.

The assumption of a 60% transit use for project-generated trips seems a bit high; however, given ready access to public transportation and socioeconomic factors favoring use of public transportation, the number of project-generated trips absorbed by the public transportation network should prove considerable. Even with a much lower transit ridership percentage, the traffic generated by the project should be sufficiently diffused over the many available roads in the area to avoid unacceptable impacts at any one intersection.

- 23 | Water- and energy-efficient fixtures should be incorporated
into the home design process to the maximum possible
extent. Construction and demolition debris generated by the
24 | project should likewise be recycled to the maximum feasible
extent.

- 25 | Since the project involves substantial construction activity
within an existing residential area, the proponent should
take special care to ensure minimum generation of
construction-related dust and noise. The proponent is also
reminded to adhere to all applicable City laws regarding
26 | proper construction-period mitigation and acceptable work
hours.

Upon implementation, this project should prove to revitalize and help restore a neighborhood in need. The goals of the project are laudable. There are a few lingering questions left unresolved in the DEIR; however, the major impacts of the project have been adequately addressed and do not warrant further detailed study. A clarification of the focus and use of the ancillary retail space would be welcome.

I thank you for your time and consideration.

Sincerely,

Arthur D. Downey, Jr.

Lorraine M. Downey
Director

LMD/AP:ap

BOSTON
REDEVELOPMENT
AUTHORITY

Raymond L. Flynn
Mayor

Stephen Coyle
Director

One City Hall Square
Boston, MA 02201
(617) 722-4300

RECEIVED

JUN 24 1991

6.24.91

MEPA

Secretary Susan Tierney
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02202

Attention: MEPA UNIT

RE: BOEA #7963 - Dudley Triangle Neighborhood Draft
Environmental Impact Report

Dear Secretary Tierney:

Pursuant to regulations implementing M.G.L., Chapter 30, Sections 62-62H, the Boston Redevelopment Authority has reviewed the above-referenced Environmental Impact Report and submits the following comments.

The proposed project involves the construction of approximately 339 low, moderate, and market rate residential units, commercial retail space, and community facility buildings and the establishment of a Town Common within the 60-acre Dudley Triangle Neighborhood in the North Dorchester/Roxbury section of the City of Boston. The housing units will be a mix of single-family, duplex, attached (rowhouse), and garden-type apartments. The project area currently is in a seriously decadent and blighted condition, with considerable areas of vacant, abandoned, property. Implementation of the proposed project will help to restore this neighborhood to the vibrant community it once was.

The Boston Redevelopment Authority is fully supportive of this important redevelopment project and has worked in close cooperation with the project proponent - the Dudley Street Neighborhood Initiative - and the City of Boston to ensure its implementation. Following an extensive and comprehensive public participation and planning process that involved several hundred community residents, and ratification of the proposed plan by the community, the BRA, on November 10, 1988, approved the application of the DSNI to form a Chapter 121A Urban Redevelopment Corporation. In addition, on March 25, 1991, the Boston Zoning Commission adopted Article 50, the Roxbury Neighborhood District Zoning, which incorporated the land use objectives and the redevelopment plans of the DSNI for the Triangle area.

The scope issued by the MEPA office required the examination of three areas of environmental concern - traffic impacts, stormwater/sewer impacts, and historical/archaeological impacts.



In general, we believe that the DEIR has responded adequately to the scoping requirements, with the specific exceptions as noted below. However, we do not anticipate the need for additional studies, but rather for supplemental information and more clarity on some of the assumptions used.

Project Description

27 | The description of the proposed project given in the Project Summary section of the DEIR does not mention the commercial retail development, nor is it listed as a component in the project description of page 3-7. It is only briefly mentioned in the housing component discussion on page 3-9 and in the Transportation section (page 4-1). Although mention is made of 20,000 sq.ft. of retail space in the Town Commons, this does not include the proposed ground floor retail along Dudley Street. Inclusion of the retail component in the project should be clearly stated up front together with the other components of the project.

28 | In section 3.1.2, Topography and Waterbodies, (as well as on page 5-7), areas of localized flooding are identified, but no solutions to the flooding problems are proposed. Mention is made of precautions to avoid flooding problems, but these are not specified. In its letter to MEPA commenting on the Environmental Notification Form, the BRA recommended that these areas (the vacant lots abutting Gouldville Terrace, Brook Avenue, and Moreland Street) be reserved as open space due to the concern for potential flooding (these low-lying areas were the location of a former brook). While the DEIR acknowledges the flooding, it does not specify any mitigation measures and assumes full build on these sites. The Final EIR should describe in more detail the mitigation measures which will be adopted to avoid the potential flooding problems.

29 | Section 3.1.6, Hazardous Waste Investigation, was included in response to a BRA request for further study of potential oil or hazardous waste contamination from past uses in the area. Although this study was summarized in the DEIR, the report itself should have been included as an appendix, and a map indicating the areas described on pages 3-5 through 3-7 should have been included in this section. According to the report, it does not appear that any significant contamination is present on these sites.

30 | Table 3.2-2 needs some revision, since there are some discrepancies in the translation of buildings into units for the 2- and 3-family developments.

31 | Also, it should be noted that the project is located in Roxbury, not in West Roxbury (cover).

Transportation Analysis

32 The transportation analysis concludes that the proposed project will generate only a limited number of vehicular trips and therefore will not have an appreciable effect on traffic operations. However, we do have some questions concerning the assumptions on which the analysis is based. The trip generation and vehicle ownership assumptions appear to be based on obsolete, 1980 Census data and may not reflect current conditions in the area nor be valid for the characteristics of the future residents anticipated to move into the area. Use of these data result in a rather low estimate of future trip generation which may, in fact, underestimate the actual traffic impacts at the critical intersections. Therefore, some revision of the analysis may be necessary, or further justification for the use of the 1980 data should be given in the Final EIR.

We do recognize, however, that the number of residential units has been reduced from the 370 proposed in the ENF to 339, and we anticipate the possibility of a further reduction in the number of units. Therefore, the minimal traffic impacts would be further lessened with a lesser number of units.

33 It is also noted that there are considerable differences in peak-hour traffic volumes at the studied intersections when comparing the Vanasse Hangen Brustlin study with an earlier Purcell Associates traffic study of the same area (referenced in the DEIR), notwithstanding the three-year difference in the studies. Also, the LOS findings in most instances are considerably different, although this may be attributable to different assumptions and counts. In addition, the Purcell study includes an analysis of the West Cottage St./Blue Hill Avenue intersection, which has experienced a 30% increase in traffic volumes in the last decade. This intersection may need to be examined in the Final EIR to determine the potential impact of the project on it.

34 Furthermore, the Purcell study describes several mitigation measures which are commensurate with the DSNI plans and ought to be included in the FEIR. The FEIR should clearly describe the proposed roadway improvements in the mitigation section of the Transportation Analysis and should summarize mitigation measures for parking, public transportation, and roadway and intersection improvements.

35 The Final EIR should include a map and define the "area" for which data were provided by CTPS regarding journey-to-work and mode choice (page 4-16 and Table 4.0-6). In addition, in Figure 4.0-8, the number for Magazine Street right turn (45) appears incorrect, since both existing (Fig.4.0-4) and 1995 Build (Fig.4.0-11) indicate only 20.

Stormwater/Sewer

37 | This section of the DEIR describes several conservation and
38 | mitigation measures to reduce sewage flows and to manage stormwater
discharges. The Final EIR should indicate the commitment of the
project proponent to implement these recommended measures. Also,
the FEIR should provide the schedule for the cleaning of the sewers
by the Boston Water and Sewer Commission.

39 | It is also noted that the sewage flow estimates consider only the
residential portion of the proposed project; no calculations are
included for the commercial retail and community facility space nor
for the Town Commons component. This analysis should be revised
accordingly to incorporate the flows from the non-residential
portion of the proposed development.

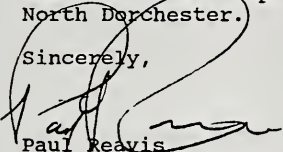
40 | On Table 5.3-2, the 100-year storm runoff is the same for both
existing and proposed conditions (23.0 ac.ft.) but the additional
combined flow shows a 0.8 ac.ft. increase. Also, the runoff
volumes are not in all cases the same as the volumes given in Table
5.2-1, from which presumably they are taken. These discrepancies
should be corrected in the Final EIR.

Historic/Archaeologic

41 | On Figure 6.0-1, the Dudley Station National Register District also
should be included on the map. Furthermore, the Historic
Background discussion (section 6.3.3) does not include the
Plantation Period (1620-1675) although this period is referenced on
page 6-12 with regard to the potential for artifacts. These
corrections should be made to the Final EIR.

In conclusion, we believe that the above concerns can be adequately
responded to in the Final EIR without additional investigative
studies, and we look forward to the early implementation of this
essential redevelopment project for the rebuilding of Roxbury and
North Dorchester.

Sincerely,



Paul Reavis
Assistant Director for
Engineering and Design Services

c: Eugene Newport
Executive Director
Dudley Street Neighborhood Initiative

RAYMOND L. FLYNN, MAYOR



PUBLIC FACILITIES DEPARTMENT

June 24, 1991

Secretary Susan F. Tierney
Executive Office of Environmental Affairs
MEPA Unit
100 Cambridge Street
Boston, MA 02202

RECEIVED

JUN 26 1991

LATE COMMENT

MEPA

Dear Secretary Tierney:

I am writing in support of the Draft Environmental Impact Report (DEIR) for the Dudley Triangle Neighborhood in Roxbury, Massachusetts. The Public Facilities Department (PFD) would like to commend the team on the quality of analysis included in this DEIR. The DEIR reflects the DSNI Master Plan as developed in partnership between DSNI, PFD and the community through extensive public hearings and discussions.

The DEIR has succeeded in addressing several of the environmental issues associated with large development projects. The project is phased for development over several years. It involves the rebuilding of an existing neighborhood at a lower density than existed. With the current infrastructure capacity and a less dense buildout planned, the project will have a low environmental impact. If a small number of parcels currently planned for housing prove unbuildable, the build-out of 339 units will be further reduced.

We found the assessment of the impacts, particularly regarding transportation and sewage outflow, to be complete:

TRAFFIC

The traffic analysis successfully acknowledges that the overall project will have a low impact using either build or no-build options as the DEIR indicates. Any increased traffic flows would be minimal because the developments are phased and scattered over 30 acres of vacant land that contain several underutilized streets which could readily absorb traffic increases.

Public improvements at the intersection of Blue Hill Avenue and Dudley Street should improve volume capacity, but the Level of Service (LOS) of D is a concern that will need to be addressed on a neighborhood level by the City of Boston Transportation Department. Overall, the project will have marginal traffic impact on the level of service projected by the addition of new households in the area. In fact, the number of new households planned for in the new developments is lower than the projected growth rate as found in Purcell Associates' 1988 traffic study for the Blue Hill Avenue area.



LISA G. CHAPNICK, DIRECTOR—15 BEACON STREET, BOSTON, MASSACHUSETTS 02108 (617) 635-3880

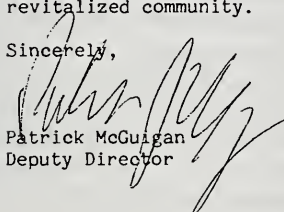
SEWAGE OUTFLOW

As the DEIR indicates, the existing infrastructure is capable of serving more than the planned 339 housing units. The planned sewer improvements by the Boston Water and Sewer Commission, a water conservation plan and specific landscape design details to reduce site run-off, will serve as adequate protection measures to help conserve water, save money for the occupants of the development and reduce flows to the combined sewer system.

PFD finds that this DEIR submission fully details the low environmental impact this project will generate. Any requirements for further investigation and reports will be paid for with scarce community development resources which otherwise could be spent on the provision of the housing development itself, or on related social services for low and moderate income people of the neighborhood. With this report, we hope that the review process can now come to closure and that the actual development of vacant land sites can move forward in 1992.

We concur with the DEIR that the project will serve as a benefit to the existing residents and new homeowners who will become part of this newly revitalized community.

Sincerely,



Patrick McGuigan
Deputy Director

cc: Gus Newport, DSN1

3354U

1.6 CIRCULATION LIST**EOEA 7963****FINAL ENVIRONMENTAL IMPACT REPORT**

Secretary, Executive Office of Environmental Affairs Attn: MEPA Unit File No. 7963	Leverett Saltonstall Building 20th Floor 100 Cambridge Street Boston, MA 02202 (3 Copies including Technical Supplement)
Department of Environmental Protection	One Winter Street Boston, MA 02108
Department of Environmental Protection Regional Environmental Engineer Northeast Region Office	Five Commonwealth Avenue Woburn, MA 01801-1010
Executive Office of Communities and Development State Clearinghouse	100 Cambridge Street Ninth Floor Boston, MA 02114
Massachusetts Historical Commission	80 Boylston Street Boston, MA 02116
Metropolitan Area Planning Council	60 Temple Street Boston, MA 02111
Massachusetts Department of Public Works, District 8	400 D Street Boston, MA 02210
Boston Conservation Commission	Room 805, Boston City Hall One City Hall Square Boston, MA 02201
Boston Redevelopment Authority Attn: Ms. Andrea D'Amato	One City Hall Square, Room 948 Boston, MA 02201
Massachusetts Water Resources Authority Attn: Ms. Katina Belezos	Charlestown Navy Yard 100 First Avenue Boston, MA 02129
Department of Public Works Boston Office	Transportation Building 10 Park Plaza Boston, MA 02116
Mass Bay Transportation Authority (MBTA) Attn: Ms. Jane Spencer O'Brien	10 Park Plaza, 6th Floor Boston, MA 02116
Department of Environmental Management - Boston	100 Cambridge Street Boston, MA 02114
Public Facilities Department Attn: Mary Knasas	15 Beacon Street Boston, MA 02108

Dudley Street Neighborhood Initiative Attn: Ms. Sue Beaton	513 Dudley Street Roxbury, MA 02119
Community Builders Attn: Peter Munkenbeck	95 Berkeley Street Boston, MA 02116
Office of the Mayor	Boston City Hall One City Hall Plaza Boston, MA 02201
Boston Water and Sewer Commission Attn: John P. Sullivan, Jr., PE	425 Summer Street Boston, MA 02210-1700
Massachusetts Executive Office of Transportation & Construction	10 Park Plaza, Room 3510 Boston, MA 02116-3969
Massachusetts Executive Office of Environmental Affairs, Division of Air Quality Control Attn: Gary Idleburg	One Winter Street Boston, MA 02108
Boston Environment Department Attn: Director	Boston City Hall, Room 805 Boston, MA 02201 (with Technical Supplement)
Project HOPE	45 Magnolia Street Dorchester, MA 02125
Nuestra Comunidad Development Corporation	391 Dudley Street Roxbury, MA 02119
Orchard Park United Tenants Association, Inc.	1154 Harrison Avenue Apartment 137 Roxbury, MA 02119
La Alianza Hispana	409 Dudley Street Roxbury, MA 02119
Waitt House, Inc.	117 Mt. Pleasant Avenue Roxbury, MA 02119
Massachusetts Aeronautics Commission	10 Park Plaza Boston, MA 02116
Roxbury Multi-Service Center	317 Blue Hill Avenue P.O. Box 157 Dorchester, MA 02121
Roxbury Childrens' Services	185 Dudley Street Roxbury, MA 02119
Lena Park Community Development Corporation	150 American Legion Highway Dorchester, MA 02224
Dorchester Bay Economic Development Corporation Attn: Mr. Robert Haas	The Pierce Building 594 Columbia Road, Suite 302 Dorchester, MA 02125

Casa Esperanza, Inc.	291 Eustis Street P.O. Box 546 Roxbury, MA 02119
Uphams Corner Neighborhood Housing Services	584 Columbia Road P.O. Box 700 Dorchester, MA 02125
Roxbury Neighborhood Council	149 Roxbury Street Roxbury, MA 02119
Choate, Hall & Stewart Attn: Ms. Jan Reitsma	Exchange Place 53 State Street Boston, MA 02109
Metropolitan District Commission Attn: David Queeley	Planning Office 20 Somerset Street Boston, MA 02108
Construction News Service Attn: Ms. Joyce Hart	McGraw-Hill Company Prudential Tower, Suite 320 800 Boylston Street Boston, MA 02199
Boston Natural Areas Fund, Inc. Attn: Ms. Eugenie Beal	25 West Street Boston, MA 02111
Peabody and Brown Attn: Ms. Carol Taylor	101 Federal Street Boston, MA 02110
Goulston and Storrs Attn: David Abromowitz	400 Atlantic Avenue Boston, MA 02210-2206
Boston Natural Areas Fund, Inc. Attn: Ms. Eugenie Beal	25 West Street Boston, MA 02111

2.0 PROJECT SUMMARY

EOEA #7963

2.0 PROJECT SUMMARY

- 2.1 Project Name: Dudley Triangle Neighborhood
Roxbury, Massachusetts
- 2.2 EOE File No.: 7963
- 2.3 Project Proponent: Dudley Street Neighborhood Initiative
513 Dudley Street
Roxbury, Massachusetts 02119

2.4 Brief Project Description

The Dudley Triangle development program (the "Project") is a community-based redevelopment effort in a portion of Dorchester/Roxbury. The Project's goal is the revitalization of the Dudley Triangle, a 60-acre neighborhood generally bounded by Dudley Street on the east, Blue Hill Avenue on the west, and a line running along a series of neighborhood streets including Brookford Street, Hartford Street, Robin Hood Street, and Folsom Street to the south (see Locus Map, Figure 2.0-1). The northern border of the Triangle is the intersection of Blue Hill Avenue and Dudley Street, however, a few vacant parcels north of the intersection are also included as part of the project area.

The Dudley Triangle is primarily a residential section of Roxbury containing a patchwork of both large and small parcels of vacant land. The specific project will include construction of approximately 276 low, moderate, and market rate residential units as well as two community facility buildings, approximately 20,000 square feet of community retail space, and the establishment of a Town Common. The housing units will be a mix of single-family, duplex, attached (rowhouse), and garden type apartments. The development will occur on 22 acres of vacant land that lies within the overall 60-acre Dudley Triangle Neighborhood. The two community facility buildings will provide approximately 45,000 square feet of space for various community activities. The buildings will include a gymnasium, day care facilities, conference rooms, library/reading room, arts and crafts center and classrooms. The 20,000 square feet of commercial space is not detailed at this time but is programmed for small "mom and pop" retail shops. They may contain such uses as convenience stores, pharmacies, hairdresser, laundromat, and office.

The project was conceived initially by residents of the Triangle and nearby neighborhoods who are members of the Dudley Street Neighborhood Initiative Program (DSNI), a non-profit corporation founded in 1984. DSNI has worked in close cooperation with the City of Boston, the Boston Redevelopment Authority, the Public Facilities Commission, the Public Facilities Department, and



For:
Dudley Triangle Neighborhood
 Roxbury, Massachusetts

By:
Beals and Thomas, Inc.
 Westborough, Massachusetts

Locus Map

Scale: 1:25000

Date: April, 1993

Source:
 USGS Boston South Quadrangle,
 Photorevised 1979

EOEA-7963 EIR Figure 2.0-1

with the Commonwealth of Massachusetts. With this working relationship, a non-profit community land trust was established. This DSNI affiliate is known as the Dudley Neighborhoods, Inc. (DNI). DNI has been granted the power to acquire land through eminent domain needed to insure that the vacant parcels are developed in a coordinated way.

The coordination effort between DSNI and other groups resulted in a planning process from which emerged a blueprint for the neighborhood. This blueprint was recognized and refined via special study area review of the Triangle as part of the Roxbury Interim Planning Overlay District. This process concluded with a zoning code amendment adopted as Article 50 by the Boston Zoning Commission on March 22, 1991. The zoning adopted for the Triangle meets the BRA's land use objectives and embodies DSNI's vision and redevelopment plans.

The Dudley Triangle Neighborhood is located in an area that was formerly developed at a greater density than currently exists. For the most part, utilities are available to each vacant lot to be developed, but some areas may need to be upgraded. The specific requirements for upgrading will be determined by the utility companies for the individual parcels.

2.5 Changes to the Project Since the Draft Environmental Impact Report

The exact project size and final layout cannot be specified completely; the projects components are subject to change as physical and financial constraints are more clearly identified. The major changes to the project since the filing of the Draft Environmental Impact Report involves the number of units to be developed. The DEIR stated that there would be 339 affordable housing units whereas the current total project is for approximately 276 units. The overall total number should not increase over the 276 units presently considered. In general, the remainder of the project has not changed significantly from the date of filing of the ENF.

2.6 Federal and State Permits Required

<u>Agency</u>	<u>Date Filed/Permit</u>	<u>File No.</u>
Boston Redevelopment Authority and Mayor of the City of Boston	Designation of Urban Redevelopment Corp. under MGL Ch. 121A	May 20, 1989
Massachusetts Historical Commission	Project Notification Form	Environmental Notification Form (9/15/89)
Dept. of Environmental Protection, Division of Water Pollution Control	Sewer Connection Permit	To be Filed

Executive Office of
Environmental Affairs/
Massachusetts Environmental
Protection Agency (MEPA)

MEPA Certification

On-going

2.7 Status of the Environmental Impact Report

This Final Environmental Impact Report (FEIR) is prepared in accordance with the Secretary's Certificate on the Draft Environmental Impact Report issued June 28, 1991. The Draft Environmental Impact Report was submitted on May 15, 1991. An Interim Report pursuant to the Massachusetts Environmental Policy Act G.L. c.30 62F was submitted on October 19, 1989 and approved by former EOEa Secretary DeVillars on December 26, 1989. Approval of the Interim Report has enabled DNI to proceed with land acquisition through eminent domain pending completion of the MEPA review process.

2.8 Financial Assistance

The development process to date has enjoyed a range of in-kind and cash support. In addition, certain commitments have been made by public and private non-profit entities to support land acquisition, housing construction and related improvements anticipated as part of the Project. Additional sources of financial support are expected to be attracted for the completion and on-going maintenance of the Project.

Each of these components of financial support -- already obtained and expended, committed but not yet expended, and expected but not yet committed -- are outlined below.

2.8.1 Financing Already Obtained and Expended

As the planning agency initiating and designing the Project for eventual implementation by DNI, DSNI has attracted a wide range of working capital support, in the form of grants from foundations and the local public sector. The foundation grants generally provided working capital support for DSNI activities ranging beyond the physical development aspect of the Project (that is, organizing, human services planning, and general administrative needs), although some were restricted to specific development tasks. These grants are listed below:

Riley Foundation - general program support

Boston Foundation - general program support

Other foundations - general program support

City of Boston--Management Assistance Program/Technical Assistance Program
("MAP/TAP")

Commonwealth of Massachusetts -- Challenge Grant

-- Urban Revitalization Development Grant (URDG)

2.8.2 Financing Committed but Not Yet Expended

This category of financing includes six items, listed below:

1. Land Acquisition Loan: The Ford Foundation has committed to DNI a \$2 million, secured, revolving line of credit to support land acquisition. The loan, a Project Related Investment ("PRI"), is priced at 1% fixed, and is to be paid in nine years. Proceeds of the loan were funded in full into escrow at closing, with the spread between Ford's 1% interest rate and the money market investment rate being available to support project-related DNI administrative costs. The loan will fund 100% of acquisition costs and be secured by mortgages on both the parcels being acquired (the primary collateral) and the public parcels being contributed as additional collateral by the City. The loan will be repaid, according to a specific release price formula calculated at whatever level is needed to ensure full retirement of debt by the completion of the Project, from the proceeds of the "initial ground lease payments" by developers to whom DNI grants development rights. This loan closed in 1992.
2. Nehemiah Housing Opportunity Grant: The U.S. Department of Housing and Urban Development awarded a \$2.325 million grant to DSNI under the Nehemiah Housing Opportunity Grant program, established to assist first-time homebuyers with the acquisition of homes. Limited to \$15,000 per homebuyer, this "grant" to DSNI is intended to operate as a "loan" to the homebuyer, with DSNI, as grantee, serving as a "lender" to the homebuyer. The terms of DSNI's "loan" to the homebuyer are as follows: 0% interest rate; no more than \$15,000 in total loan amount; second mortgage held by HUD; repayment due only upon sale of the subject home. This grant, the third largest in the country in the 1990 round of Nehemiah awards -- and the first ever granted to a Massachusetts recipient -- was announced in September of 1990, with the grant agreement submitted to DSNI in late December 1990 for its review. Pending completion of negotiations between HUD and DSNI over the specific grant terms as they relate to the characteristics of the Project, these grant dollars will be available to DSNI in time to support the first phase of the Project.
3. Town Common Grant: In late 1988, the Secretary of Environmental Affairs of the Commonwealth of Massachusetts announced the award to DSNI of a \$700,000 "Town Commons" grant. This grant was awarded to support various public infrastructure improvements at and near the Dudley Street/Blue Hill Avenue/ Hampden Street intersection in the northern region of the Dudley Triangle. This critical intersection

is the location of a landmark Catholic Church, a set of mixed-use buildings housing commercial and residential uses, the headquarters for a major human services agency, and various vacant parcels. It is perceived as presenting an opportunity to "anchor" the Triangle Neighborhood with a public gathering place with adequate parking and outdoor landscape amenities to accommodate safely pedestrian and recreational activities. The \$700,000 million in Commonwealth funds will be supported by another \$500,000 in capital improvement investments being carried by the City of Boston in its capital improvements budget.

The \$700,000 Town Commons Grant and the \$500,000 capital improvement funding was awarded.

4. Urban Renewal Development Grant: The Executive Office of Communities and Development ("EOCD") of the Commonwealth of Massachusetts announced the grant in spring of 1990 of an Urban Renewal Development Grant to support various redevelopment planning activities related to the Project. This grant is to be made on a 75%/25% matching basis with the City of Boston -- the Commonwealth providing the 75% and the City the 25% portion. This grant will support various planning activities related to the two Triangle community facilities, housing market analysis for the Project, environmental impact analysis for the Project, and marketing support for the Project.
5. Contribution of Public Land: Although it is not a direct cash source of support, the City's conveyance for \$1 to the Project of the land it owns through tax foreclosure represents a critical source of financial support. The availability of the public land, representing some two-thirds of the vacant land to be developed, leverages the Ford Foundation support described above and helps to reduce total development costs of the housing and community facilities to be developed.

- 2.8.3 **Financing Expected but Not Yet Committed:** The Project will continue to be supported administratively and operationally by a mix of foundation grants and possible public support. This financing need will be reduced by the support from the net interest income earned by the PRI loan.

In addition, the specific housing developments will be supported by a range of public sector and private sector grants and loan programs, including Section 8 (federal) rent subsidies, City of Boston linkage payments, federal block grants administered by the City, the Massachusetts

Housing Partnership Fund, syndicated equity investments generated by the federal Low Income Housing Tax Credit, and both assisted and unassisted construction and permanent loans (Massachusetts Housing Finance Agency, Federal Home Loan Bank, Massachusetts Government Land Bank, and private lenders). Support of the private lending industry and the equity investor industry will be enhanced by the recent implementation of a consortium of lenders and investors under the newly-formed Massachusetts Housing Investment Corporation, a private non-profit company capitalized with some \$38 million from various Massachusetts commercial banks and other institutions. In specific, the 45-unit Nuestra Comunidad development -- a limited equity cooperative -- is among five such projects identified under the "Boston Co-op Initiative" as high priority affordable housing projects by the City and the Boston Housing Partnership (the private non-profit organization charged with coordinating financing, the development process, and property management for a wide range of affordable housing initiatives). The DSNI staff is also investigating the availability of corporate grants to support the housing developments.

All these sources of financial support will be extended not to DNI, but to the developer/sponsor entities actually building the housing under development rights granted by DNI under the terms of the ground lease.

Another potential source of funding is that authorized under the new Cranston-Gonzalez National Affordable Housing Act, expected to provide up to \$8.0 million in subsidy support to non-profit housing developers and low and moderate-income residents in Massachusetts. Various sections of this Act, especially Title I (State and Local Housing Strategies), Title II (HOME Investment Partnerships), Title III (Homeownership), Title V(B) (a revision to the Section 8 Rental Assistance program), and Title VIII (Supporting Housing -- aimed particularly at the elderly, persons with AIDS, persons with disabilities, and the homeless), are consistent with the Triangle Development Program, and it is reasonable to expect support from this source.

The community facilities anticipated under the Project will seek financial support in the form of grants and loans from a variety of funding sources. Foundation grants, capital grants, low-cost loans, and public support will be sought when these projects are ready for funding support. A specific possibility for these facilities is the support of grants from the Browne and White Funds of the City of Boston, established in the early twentieth century to support outdoor beautification efforts as well as facilities serving a wide range of community needs.

The Town Commons portion of the Project may also enjoy the support of a similar range of public and private entities, with the Town Common grant, discussed above, serving as a critical source of initial support for land acquisition and public infrastructure improvements.

2.9 Summary of Environmental Impacts.

2.9.1 Traffic Impacts

The traffic analysis illustrates that even under a worst case with 100 percent of site traffic using private automobiles, the study area intersections will operate at the same level of service predicted under the No-Build condition. The implementation of the City of Boston Improvement Plan will significantly enhance traffic flow in the corridor. The project has no appreciable impact on traffic operations within the study area with or without the planned roadway improvement project.

2.9.2 Stormwater/Sewer Impacts.

The existing combined stormwater sewer system in the Triangle Area has adequate capacity to handle the flows anticipated by the project. The majority of the streets already contain the infrastructure necessary to service the building sites. In a few cases, extensions of the sewer system will be needed to serve individual buildings.

2.9.3 Historic/Archaeologic Impacts.

There will be minor, if any, negative impacts from the proposed project to the historical and archaeological resources in the area. Based on a letter by the Massachusetts Historical Commission (Appendix E in the Draft Environmental Impact Report) there will be "no adverse effect" provided the Boston Landmarks Commission is given the opportunity to review and comment on the design and site drawings of the proposed housing units. Additionally, design plans for individual buildings will be submitted to the City Archaeologist a minimum of one month prior to construction.

There will be positive impacts of the project on the historical resources in certain areas. The rehabilitation of the area will improve the environs of existing historical structures.

2.10 Summary of Proposed Mitigation Measures

2.10.1 Transportation Mitigation

As described above, the project has no appreciable impact on traffic operations within the study area with or without the planned roadway improvement project. There are, therefore, no project-related impacts which require mitigation.

2.10.2 Stormwater/Sewer Mitigation

The project proponent has committed to mitigation measures to reduce the impact of the project to the combined sewer/stormwater system. The measures to be implemented meet or exceed the requirements contained in the Plumbing Code.

1. Installation of:
 - low flow toilets of 1.6 gallons per flush
 - low flow shower heads of 3.5 gallons per minute or less
 - sink aerators that limit the flow to a maximum 2.5 gallons per minute
2. The plant list to be used in the specific contract will contain a minimum of 50 percent of the plant materials contained in the Massachusetts Water Resources Authority list of low water use plant materials (enclosed as Table 5.4-2, page 2-14).
3. The project proponent will endeavor to use leaching pits (dry wells) for subsurface disposal of stormwater from roof runoff rather than connecting roof drains directly into the combined storm/sewer system. The leaching pits, when used, will promote recharge of the runoff into the on-site soils. The net result is a small reduction of the volume of stormwater entering the combined sewer/drainage system which is overloaded during extreme weather conditions. Due to the costs of these systems and the varying soil conditions from one site to another, the proponent cannot commit to these mitigation measures for all sites.
4. Separate sanitary and stormwater connections will be provided to the combined sewer as required by the Boston Water and Sewer Commission.

2.10.3 Historic/Archaeologic Mitigation

The proponent has committed to providing the following mitigation measures to reduce the potential for impacts to historic/archaeological resources:

1. Plans of the various buildings and site design have been provided to the Boston Landmarks Commission for review and comments on the compatibility of the architecture to surrounding historic homes.
2. The project proponent will provide site plans to the City Archaeologist for review and comments at least one month prior to commencement of construction for each individual building. The City Archaeologist has already been provided a copy of the list of parcels to be developed in a letter from DSNi dated December 4, 1991.

2.10.4 Flooding Mitigation

The potential exists for localized minor flooding in some low lying areas within the project site. Buildings proposed in these areas will provide specific mitigation depending on the condition on the site. The mitigation may include one or more of the following:

1. Perimeter drains may be installed on the buildings within the area identified on the map (Figure 2.0-2), as having the potential for localized flooding.
2. Basements within the area may either be water-proofed or provided with a sump pump if, by subsurface investigation, it is determined that groundwater may reach within 12 inches of the proposed basement floor elevation.
3. Low areas may be raised with the installation of clean fill to bring the grade up to provide positive drainage toward the street.

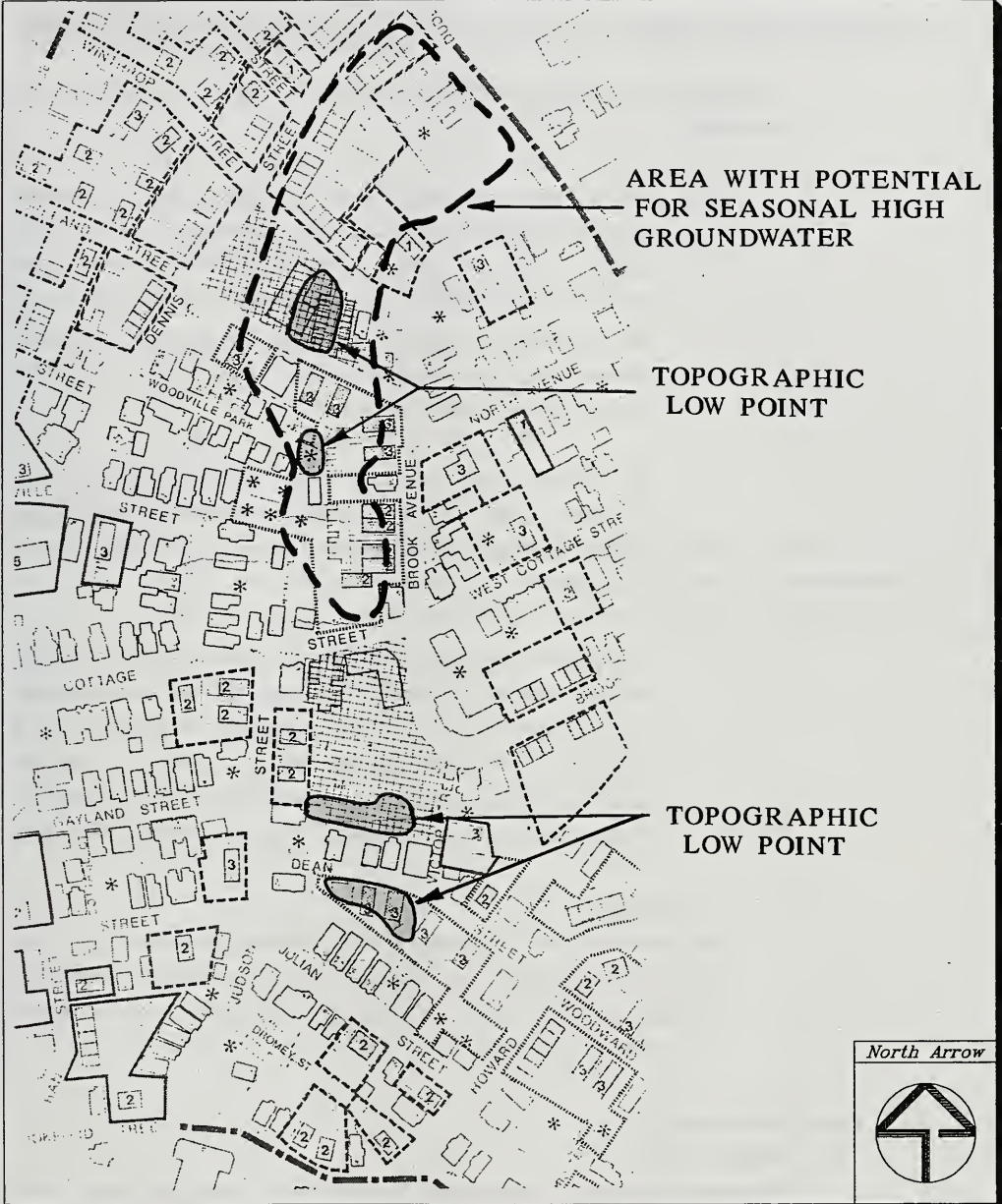
2.10.5 Other Mitigation

1. Construction Impacts

The construction supervisor will be responsible to ensure that all contractors and subcontractors provide adequate means of dust and noise control on the construction sites at all times.

The following minimum dust control will be adhered to by the contractors for the various portions of the project:

- a. Exposed surfaces shall be wetted as required to reduce the amount of airborne dust. Monitoring of on-site dust conditions will be the responsibility of the construction supervisor on the project site.
- b. Exposed areas will be vegetated or paved as soon as practicable after achievement of finish grades in order to minimize the period of time these areas are exposed to the elements thereby reducing the opportunity for the wind to generate airborne dust.
- c. All trucks hauling material to or from the site will have their loads covered with tarpaulins to reduce the amount of dust entering the air on the site and the surrounding roadway network.



For:
Dudley Triangle Neighborhood
 Roxbury, Massachusetts

By:
Beals and Thomas, Inc.
 Westborough, Massachusetts

Areas for Special Drainage Considerations

Scale: 1"=250'

Date: April, 1993

Source:
 Project Plans, Site Inspection

EOEA-7963 EIR Figure 2.0-2

The following measures will be implemented to minimize the impact of noise pollution during construction:

- d. All construction work will be performed within the hours of operation permitted by the Boston Inspectional Services Department. The Department limits the construction period as Monday through Friday 7:00 AM to 6:00 PM. Any extension of the time period will require that the contractor file for and be granted an extension from the Commissioner of the Inspectional Services Department. An extension is also required for the contractor to perform work on Saturdays and holidays.
- e. The maximum levels and peak overall noise levels resulting from construction activities will not exceed the levels allowed in the Regulations for the Control of Noise administered by the Boston Air Pollution Control Commission.
- f. Noise emitted from truck and construction equipment will be minimized through the use of efficient mufflers, resonators, and other sound dampening devices in conformance with OSHA requirements and established sound levels. The construction supervisor will be responsible for ensuring compliance with construction hours of operation and ensuring that the mufflers on all construction equipment and trucks are properly maintained.

2. Energy Impacts

The gas furnaces used in residential buildings will meet a minimum 78% Average Fuel Utilization Efficiency (AFUE), which exceeds the minimum 68% required by Building Code. Other appliances will be standard commercially available appliances of maximum practical efficiencies.

2.11 Project Timetable and Cost

2.11.1 Project Timetable

The project is anticipated to be constructed in various phases, initially commencing in 1993 and continuing until 1999. Construction of Phase I (residential) has a waiver from the MEPA process and is commencing in the Spring of 1993. The following table illustrates the expected construction timetable:

	<u>Start</u>	<u>Completion</u>
Phase I (Residential)	1993	1994
Phase II (Residential)	1994	1995
Phase III (Residential)	1995	1996
Phase IV (Residential)	1997	1999
Community Facilities 1 & 2	1995	1996
Town Common	1994	1996
Retail Space	1997	1999

2.10.2 Anticipated Costs

The projected costs for the project are anticipated to be approximately \$46 million. Of that amount, \$30 million is for residential construction and infrastructure improvements, \$10 million for community facilities, \$1.2 million for the Town Common, and \$4 million for retail space.

TABLE 5.4-2

Low Water Use Plant Materials

<u>Common Name</u>	<u>Mature Latin Name</u>	<u>Height</u>
Trees		
Amur Maple	<u>Acer ginnala</u>	20'-25'
Austrian Pine	<u>Pinus nigra</u>	50'
Japanese Black Pine	<u>Pinus thunbergii</u>	50'
London Plane	<u>Platanus x acerifolia</u>	50'
White Oak	<u>Quercus alba</u>	50'
Shrubs		
Broom	<u>Cytisus</u> sp.	6"-9
Flowering Quince	<u>Chaenomeles speciosa</u>	3'-6'
Junipers	<u>Juniperus</u> sp.	2'-9'
Potentilla	<u>Potentilla</u> sp.	3'-4'
Salt-Spray Rose	<u>Rosa rugosa</u>	4'-6'
Ground Covers		
Bearberry	<u>Arctostaphylos uva-ursi</u>	6"-8"
Lillies of the Valley	<u>Convallaria majalis</u>	6"-8"
Violets	<u>Viola</u> sp.	6"-8"
Perennials		
Aster	<u>Aster</u> (certain species)	15"-30"
Common Blanketflower	<u>Gaillardia aristata</u>	2'-3'
Sedum (Acre, Red Carpet)	<u>Sedum</u> sp.	2"-15"
Ruby Glow, Stoloniferum, Spectabile)		
Tawny Daylily	<u>Hemerocallis fulva</u>	6'
Yarrow	<u>Achillea</u> sp.	4"-4'
Annuals/Biennials		
Cosmos	<u>Cosmos</u> sp.	3'
Gazania	<u>Gazania</u>	6"-18"
Marigold	<u>Dimorpotheca</u> sp.	4"-16"
Portulaca	<u>Portulaca grandiflora</u>	8"
Strawflower	<u>Heliochrysum bracteatum</u>	3'

Source: Garden and Landscaping Water Conservation Tips, MWRA, Pamphlet Number 7-89/200M/.09

3.0 REFERENCES TO THE DRAFT ENVIRONMENTAL IMPACT REPORT

3.0 REFERENCES TO THE DRAFT ENVIRONMENTAL IMPACT REPORT

References to Draft Environmental Impact Report

This Final Environmental Impact Report was prepared as a response to comments rather than as a revision (and reprinting) of the entire Draft Environmental Impact Report. Required Sections of the Draft Environmental Impact that have not elicited comments are incorporated by reference in this Final Environmental Impact Report. Therefore, the following required sections of the FEIR are referenced to the Draft EIR:

1. "Front Matter" is included in the Final Environmental Impact Report.
2. "Summary" is provided in Section 2.0 of the Final EIR.
3. "Project Description" is contained in Section 2.0 of the Final EIR.
4. "Alternatives to the Proposed Project" are described in Sections 4.0 and 5.0 of the Draft Environmental Impact Report.
5. "Existing Environment" is described more generally in Section 3.0 of the Draft Environmental Impact Report. More detailed existing conditions as applicable to the specific scope items of Stormwater/Sewer, Traffic and Historic/Archaeologic Resources are contained in Sections 4.0, 5.0 and 6.0 of the Draft EIR.
6. Analysis of Effects is summarized in Section 2.9 of the Final Environmental Impact Report, and more specifically described in Sections 4.0, 5.0 and 6.0 of the Draft Environmental Impact Report.
7. Mitigation Measures are summarized in Section 2.0 of the Final Environmental Impact Report.

Should any reviewer require a copy of the Draft EIR, it may be obtained by contacting Robert Weidknecht at Beals and Thomas, Inc., 200 Friberg Parkway, Westborough, MA 01581, (508) 366-0560.

4.0 RESPONSES TO COMMENTS

4.1 Executive Office of Environmental Affairs, MEPA Unit - June 28, 1991

Comment 1

"The final EIR should include a total build-out of the project, including more details and plans for the number of square feet (sf) of commercial retail space, the recreation center, the two community service facilities, and the mid-rise elderly housing complex. What specifically is being planned for the two 30,000 sf community service facilities?"

Response

Commercial Space

The commercial space at this time is not detailed, nor are there specific plans of the proposed buildings. In general the 20,000 square feet of commercial space is programmed for small retail shops ("mom and pop type stores"). They may contain such uses as convenience store, dry goods store, pharmacy, hairdresser, laundromat and some office. The intent is to provide needed services to the neighborhood as well as to provide area for entrepreneurs and, subsequently, local job opportunities.

Community Service Facility

The two community service buildings now comprise 45,000 square feet of building area, reduced from the 60,000 square feet discussed in the Draft Environmental Impact Report. They include a variety of function spaces including:

Lounge, gymnasium, exercise equipment, locker rooms, counseling rooms, classrooms, reading room, day care, arts and crafts and a commercial kitchen.

The community facility spaces will also contain exterior child play space, a wading pool, a basketball court and off-street parking for 35 vehicles.

The specific components and areas of the two community facilities buildings is further described in Appendix A.

Recreation Center

The recreation center is included within the community service facilities and is not a separate component.

Mid Rise Elderly Housing

The mid rise elderly housing complex as described in the Draft Environmental Impact Report has been deleted from the program.

Comment 2

"What will be the estimated number of vehicle trips which each of these facilities will generate?"

Response

The vehicle-trip generation estimate for each component of the project (residential, commercial, community service facility) is presented and discussed in the following paragraphs.

Residential Use

Subsequent to the filing of the project DEIR, the fifth edition of Trip Generation by the Institute of Transportation Engineers was published. This latest edition supersedes the fourth edition of Trip Generation which was used to estimate project trip generation for the DEIR. In addition, subsequent to the DEIR the number of residential units has been reduced from 339 units to 276 units. The revised trip generation estimates for the residential component of the project is presented in Table 1.

**TABLE 1 TRIP GENERATION ESTIMATE
RESIDENTIAL PROJECT COMPONENT**

<u>Time Period</u>	<u>Direction</u>	<u>Unadjusted Total*</u>	<u>Net** Reduction</u>	<u>Adjusted Vehicle Trips</u>	<u>DEIR Adjusted Vehicle Trip Estimate</u>
<u>Weekday</u>	Two-Way	1,905	1,145	760	930
Morning Peak Hour	Enter	25	15	10	15
	<u>Exit</u>	<u>110</u>	<u>65</u>	<u>45</u>	<u>60</u>
	Total	135	80	55	75
Evening Peak Hour	Enter	110	65	45	60
	<u>Exit</u>	<u>60</u>	<u>35</u>	<u>25</u>	<u>30</u>
	Total	170	100	70	90
<u>Saturday</u>	Two-way	1,915	1,150	765	NC***
Midday Peak Hour	Enter	85	50	35	NC
	<u>Exit</u>	<u>70</u>	<u>45</u>	<u>25</u>	<u>NC</u>
	Total	155	95	60	NC

* Based on Trip Generation, Fifth Edition, Institute of Transportation Engineers, Washington, DC, 1991. Land Use Code 221 Low-Rise Apartment. Trips generated for 276 units.

** Sixty percent reduction to account for non-auto trips generation (ie. transit and pedestrian trip)

*** NC=Not calculated.

As shown in Table 1, the 276 proposed residential units could potentially generate 135 to 170 vehicle trips during the weekday morning and evening peak hours, respectively. With appropriate reductions for non-auto (pedestrian and transit) trip-making, as discussed in the DEIR, the residential component is expected to generate 55 to 70 vehicle trips during these weekday peak hours. During the Saturday midday peak hour, the residential component is expected to generate 60 trips.

A comparison of the updated trip generation estimates and the trip generation estimates presented in the DEIR is also presented in Table 1.

As shown, the residential project component, as currently proposed, is expected to generate 20 fewer trips during the weekday peak hours than was previously estimated in the DEIR.

Community Service Facility

As described previously, two 22,500 square foot community service facilities are proposed as part of this project. These facilities will provide space for recreational, educational, day care, meeting room and counseling services. The facilities are being constructed to serve the immediate residential neighborhoods. It is estimated that this project component will generate minimal traffic as it is located in a residential area and is well-served by public transportation. In addition, the trip generating potential of the community service facilities will be limited by the available off-street parking supply. In total, only 35 off-street parking spaces will be constructed at the two facilities to accommodate visitors and employees.

ITE presents very limited data to estimate the trip generation potential of this use. The ITE land use which most closely describes the proposed facilities is Recreational Community Center (Land Use Code 495). ITE defines a Recreational Community Center as a facility "...similar to and including YMCAs, often including classes and clubs for adults and children, day care or a nursery school, meeting rooms, swimming pools and whirlpools, saunas, tennis, racquetball, and handball courts, exercise classes, weightlifting and gymnastics equipment, locker rooms, and a restaurant or snack bar." This is a much more intense level of activity and services than is expected at the proposed community service facilities.

In addition, the data presented in Trip Generation for this land use is based on one study conducted in 1986 at a suburban New York facility with 14,000 members. Even though the available ITE trip generation data are extremely limited, the ITE trip rates were used to estimate the trip generating potential of the proposed community service facilities. The trip generation estimate is presented in Table 2.

**TABLE 2 TRIP GENERATION ESTIMATE
COMMUNITY SERVICE FACILITY**

<u>Time Period</u>	<u>Direction</u>	Unadjusted <u>Total*</u>	Net <u>Reduction**</u>	Vehicle <u>Trips</u>
<u>Weekday</u>	Two-way	NA**	NA	NA
Morning Peak Hour	Enter	35	20	15
	<u>Exit</u>	<u>25</u>	<u>15</u>	<u>10</u>
	Total	60	35	25
Evening Peak Hour	Enter	20	10	10
	<u>Exit</u>	<u>55</u>	<u>35</u>	<u>20</u>
	Total	75	45	30
Saturday	Two-way	415	250	165
Midday Peak Hour	Enter	25	15	10
	<u>Exit</u>	<u>30</u>	<u>20</u>	<u>10</u>
	Total	55	35	20

* Based on Trip Generation, Fifth Edition, Institute of Transportation Engineers, Washington, DC, 1991. Land Use Code 495 - Recreational Community Center. Trip Generated for 56,010 sf of indoor/outdoor recreational use.

** Sixty percent reduction to account for non-auto trip generation (ie. transit and pedestrian trips)

*** Not Available.

As shown in Table 2, with reductions for pedestrian and transit activity, the proposed community service facilities could generate 25 to 30 vehicle-trips during the weekday and Saturday peak traffic hours.

Commercial Retail Use

The project includes approximately 20,000 square feet of commercial retail building area which is expected to be occupied by a number of specialty uses such as hair salons, dry cleaners, laundromats, and convenience stores. These uses are proposed to service the existing and proposed residential development in the Dudley Triangle area. No off-site parking is proposed to be provided for these uses.

Therefore, these uses are expected to generate only minimal vehicle traffic. In addition, the impacts of the retail uses will be minimized because for certain types of uses, the peak hour may not coincide with the peak traffic hour of the adjacent roadways.

A summary of the anticipated peak hour project trip generation is provided in Table 3. As shown in Table 3 the project, as currently proposed, is expected to generate approximately 80 to 100 vehicle-trips during the weekday and Saturday peak traffic hours of the adjacent roadway system. This trip generation estimate is for vehicles only and is based on the assumption that the residential- and community service facility-related traffic will be reduced by 60 percent to account for non-auto trips. It is also assumed that the commercial retail uses will generate no new vehicle traffic. See response to comment 8 for rationale on 60 percent trip reduction.

Also included in Table 3 are the vehicle-trip generation estimates used in the traffic analysis presented in the DEIR. As shown, the DEIR analysis was based on two sets of trip generation estimates. One set of trip generation estimates was adjusted to reflect non-auto trip making, and these are comparable to the current adjusted vehicle-trip generation estimate. In the second set of trip-generation estimates, no reduction was made to account for non-auto trips. These peak hour trip generation estimates, which assume all trip-making is done by automobile, range from 185 to 220 vehicle trips per hour. The analysis presented in the DEIR for the study area intersections indicates that the same level of intersection operations will result with the addition of either the adjusted or unadjusted site-generated traffic volumes to the study area intersections.

TABLE 3 PEAK HOUR PROJECT TRIP GENERATION SUMMARY

<u>Time Period</u>	Adjusted Vehicle-Trip <u>Estimate</u>	Vehicle-trip Estimate used in DEIR Analysis	
		Adjusted <u>Total</u>	Unadjusted <u>Total</u>
<u>Weekday</u>			
Morning Peak Hour	80	75	185
Evening Peak Hour	100	90	220
<u>Saturday</u>			
Midday Peak Hour	80	NC	NC

Comment 3

"A zoning map displaying the project area should be included as well as a brief discussion of the potential full development of the site and the applicable zoning regulations and requirements."

Response

A zoning map is enclosed as Figure G-1 in Appendix B, and shows the zoning of the project site. As described in the Draft Environmental Impact Report, the project area contained approximately 1,300 housing units at its peak in 1960. By 1980 the area was reduced to 735 housing units, of which 102 were vacant. The proposed redevelopment of the area will add 276 housing units which will result in a lower density than that which previously existed in 1960. The project will result in a total of approximately 900 housing units which is about 70% of the area's previous density.

Potential Full Development

To determine the potential full development of the area, the zoning was overlayed onto the vacant land areas (see Figure G-2; Appendix B). Comparing the proposed density of the original DSNI master plan and extrapolating the relative density to the vacant parcels which are not included in the DSNI project, Beals and Thomas, Inc. estimated an additional 106 units could be developed over the 339 originally proposed. This means that the total area could be

developed to approximately 1,078 units which is 83% of the 1960 density.

Applicable Zoning Regulations and Requirements

Included in Appendix B is a summary of selected zoning requirements for the various districts within the project area.

Comment 4

"As the proponent finalizes its commercial retail space and community facilities space, some discussion should be included in the Final EIR regarding Saturday traffic impacts."

Response

As discussed in the response to Comment 2, the residential and community service facility components of the project are estimated to generate approximately 80 vehicle-trips during the Saturday midday peak hour. The commercial retail uses are expected to generate minimal traffic because these uses will serve the existing and proposed residential communities, the uses are located in an urban area and are easily accessed by pedestrians and transit riders, and no off-street parking is proposed to support these uses. For these reasons, the impacts of project-related traffic during a Saturday should be insignificant. The improvements proposed to be constructed at the study area intersections should provide improved traffic operations at these locations on a Saturday.

Comment 5

"If more recent traffic accident data is available from the Massachusetts Department of Public Works, this data should be included in the Final EIR."

Response

Vanasse Hangen Brustlin, Inc. (VHB) obtained accident data for the two study area intersections for the three-year period from January 1988 through 1990.

A summary of the more recent accident data and the data included in the project DEIR is presented in Table 4.

TABLE 4 ACCIDENT SUMMARY

<u>Location</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>Total*</u> <u>1988-1990</u>	<u>Total**</u> <u>1985-1988</u>
Hampden Street at Dunmore Street and Dudley Street	1	3	2	6	3
Blue Hill Avenue at Dudley Street and Magazine Street	5	10	4	19	32

* Source: Massachusetts Highway Department.

** Source: "Blue Hill Avenue and Dudley Street Traffic Improvements", Purcell Associates, May 1990.

As shown in the table, during the three- year period from 1988 to 1990, six accidents were reported to have occurred at the intersection of Hampden Street at Dunmore Street and Dudley Street and nineteen accidents were reported to have occurred at the intersection of Blue Hill Avenue at Dudley Street and Magazine Street. The data presented in the Purcell study for the three-year period from May 1985 to May 1988 indicates a total of three and thirty two accidents occurred at these intersections, respectively.

Even though the available data cover almost a six-year time frame, it is difficult to identify concrete trends in the accident frequency because the interval from January to May 1988 is included in both accident totals, and the totals are obtained from different sources. In keeping with current EOEa guidelines, the recent data were obtained from the MHD, which in turn obtains accident data from the records of the Massachusetts Registry of Motor Vehicles. The Purcell data were obtained from the Boston Police Department and it is likely that a number of accidents, probably involving minimal property damage, would be recorded by the Police Department at the scene but would not be reported to the Registry.

The recent accident data obtained from the MHD indicate an annual accident frequency of 2 accidents per year at the intersection of Dudley, Hampden and Dunmore Streets and 6.3 accidents per year at the intersection of Blue Hill Avenue at Dudley and Magazine Streets. These accident frequencies do not indicate that safety deficiencies exist at either study area intersection.

Comment 6

"Additional information regarding the analysis of the traffic signal warrants should be presented in the text or in an appendix of the Final EIR."

Response

As indicated in the Purcell study (see Appendix F) the existing traffic signal at the West Cottage Street and Blue Hill Avenue intersection was not warranted under 1988 traffic conditions. Although traffic counts were not conducted at this location in conjunction with the project DEIR, it can be assumed that the signal is not warranted under current conditions, as overall study area traffic volumes have not increased in recent years.

Comment 7

"Furthermore, if the Purcell Associates traffic study is considered important to the Final EIR, then the proponent should include the study or relative portions of it as an appendix."

Response

Appropriate sections of the Blue Hill Avenue and Dudley Street Traffic Improvements report prepared by Purcell Associates in May 1990 is provided in Appendix F of this Final EIR. A complete copy of the report is available upon request. Make request to Robert Weidknecht, Beals and Thomas, Inc., Two Westborough Business Park, 200 Friberg Parkway, Westborough, Massachusetts 01581, (508) 366-0560.

Comment 8

"The Final EIR should justify the 60 percent trip reduction rate. This reduction is based on what may be obsolete vehicle ownership and journey-to-work data. I am not convinced that a 60 percent trip reduction rate is appropriate. Furthermore, I do not have confidence in the Draft EIR's assumption that all retail trips at the project site will

be made by walking. I believe that some of these internal trips will be made by auto."

Response

The vehicle ownership and journey-to-work data supplied by CTPS and used in the DEIR is based on 1980 Census data adjusted to reflect the local census taken in 1985. These were the most recent data available during the preparation of the DEIR. The vehicle ownership data indicate that vehicle-ownership in the Dudley Triangle area is 60 percent lower than the statewide average. The journey-to-work data indicate that 58 percent of the workers residing in the Dudley Triangle area walk, take the bus or train, or carpool to work. Thus, the data provide the justification for the 60 percent trip reduction.

Comment 9

"I also wonder how many vehicle trips will be attracted to the community service facilities and the recreation center as well as to the retail uses. The level of trips generated will depend on the specific services proposed, and some estimates should be made by the proponent in the Final EIR."

Response

The trip generating potential of all of the project components is discussed in the response to Comment 2.

Comment 10

"It should clearly describe mitigation measures for parking, public transportation, and roadway and intersection improvements, and it should describe the responsible party. The proponent should also review the EOE/EOTC Guidelines for EIR/EIS Traffic Impact Assessment before completing the Final EIR."

Response

A figure illustrating the planned roadway improvements at the study area intersections was included in the DEIR. Additional plans from the Purcell study are provided in Appendix F. A description of these improvements and the parties responsible for implementation are provided below:

Blue Hill Avenue at Dudley, Magazine and Mount Pleasant Streets

The Blue Hill Avenue intersection approach will be widened from one to two lanes. The Dudley Street intersection approaches will be widened from one to two lanes through the removal of parallel parking on these approaches. In addition two travel lanes in each direction will be provided on Dudley Street between this intersection and the Dudley Street, Hampden Street, Dunmore Street intersection with the elimination of parking in this area.

Dudley, Hampden and Dunmore Streets

The Hampden Street southbound intersection approach will be widened from one to two lanes through a combination of roadway widening in the northwest corner and removal of parking along the westerly side of Hampden Street.

Planned improvements also include upgrading the traffic signal equipment at the two intersections described above. The new traffic controllers will be interconnected so that timing and phasing at the intersections will be coordinated.

These improvements are being constructed as part of an Urban Systems project to be funded by state and federal sources. Presently, the intersection design plans are complete and the city is expected to be initiating the land taking process shortly. The project is expected to be advertised in June 1993, with construction commencing in March of 1994. The improvements should be completed in 1995.

Comment 11

"The BWSC has requested the proponent to identify where street flooding may occur."

Response

The potential exists for areas within the project site to have some minor localized flooding and the potential for seasonal high groundwater. Observations were made in the field to identify these sites. Topographic information was also used to identify the areas with potential seasonal high groundwater (predominantly the area near where the Brook once existed). Figure 2.0-2 shows the various areas for potential flooding.

Most of the localized flooding areas are simply topographic low points that collect water to shallow depths, usually less than one foot. Another area at the end of Woodville Park had flooding as a result of both a topographic low point and as a consequence of street drainage system sedimentation. Based on a conversation with Stephen Shea, Director of Engineering Design, Boston Water and Sewer Commission, any areas with sedimentation problems will be cleaned by the BWSC as needed to prevent flooding.

Comment 12

"It encourages the proponent to consider using leaching catch basins, dry wells, and other limited on-site detention. The proponent should propose solutions to identified flooding problems. Unless the proponent can propose measures such as a dry well to prevent flooding in these areas, it should consider these sites for open space."

Response

The proponent will provide mitigation in the areas identified on Figure 2.0-2 as having the potential for localized flooding. In areas of potential high groundwater, mitigation will be provided as needed in the form of either basement waterproofing, construction without basements, foundation drainage systems or utilizing sump pumps. The need for such mitigation will be determined by on-site subsurface investigation. Appropriate mitigation measures will be determined by the Architect responsible for preparing the project specifications.

In the areas of topographical low points, mitigation will take the form of either importing clean fill, not constructing a building within the area subject to flooding or by providing adequate drainage structures to prevent the water from ponding. The Architect, in association with the proponent, will make the determination as to the appropriate means of mitigating the potential for flooding in these areas.

The proponent will also consider installing dry wells and splash blocks to encourage infiltration of roof runoff from the proposed buildings rather than connecting roof drains directly to the combined

sewer system. Due to the costs of dry wells and the varying soil conditions from one site to another, the proponent cannot specifically commit to these mitigation measures at all sites.

Comment 13

"I direct the proponent to contact the City Archaeologist on a case-by-case basis to mitigate possible impacts on archaeological resources."

Response

The City Archaeologist has been provided a copy of the list of parcels to be developed in a letter from DSNI dated December 4, 1991. Additionally, all design plans for individual building/house construction will be submitted to the City Archaeologist for review of impacts on archaeological resources a minimum of one month prior to construction.

Comment 14

"The proponent should revise the project location to read "Roxbury" on the cover and anywhere else."

Response

The cover of the FEIR has been revised accordingly.

Comment 15

"The Final EIR should update the project's public and private committed and projected funding sources. Of the state grants mentioned in the Draft EIR, such as the Town Common Grant, the Urban Renewal Development Grants, and the Chapter 707 Rent Subsidy Program, are they still available given state funding problems?"

Response

The updated listing and description of public and private funding for the project is included in Section 2.8. The Town Common Grant and Urban Renewal Development Grant are still available but the HOP and Chapter 707 Rent Subsidy Program are not.

Comment 16

"I direct the proponent to include its 21E Hazardous Waste Investigation as an appendix in the Final EIR as the BRA requested."

Response

The 21E Hazardous Waste Investigation is being provided to the BRA and EOE MEPA unit as requested. It is included as a separate technical appendix to other interested parties on request. For copies, contact Robert Weidknecht at Beals and Thomas, Inc.,

Two Westborough Business Park, 200 Friberg Parkway,
Westborough, Massachusetts 01581 (508) 366-0560.

Comment 17 *"I request that the project proponent address all comments in the
"comments received" below."*

Response The following pages respond to the comments received on the Draft
Environmental Impact Report.

4.2 **Boston Water and Sewer Commission - June 20, 1991**

Comment 18 *"The DEIR indicates that some localized street flooding occurs in the
area. The proponent is requested to identify where street flooding may
occur under the proposed conditions."*

Response The comment was responded to previously, see Response to
Comment Number 11.

Comment 19 *"The proponent is aware of our interest in minimizing the stormwater
runoff discharged to the combined sewer. The Commission strongly
encourages the use of leaching catch basins, dry wells and limited on-
site detention."*

Response This comment was responded to previously, see Response to
Comment Number 12.

Comment 20 *"The Commission will require separate sanitary and stormwater
connections to the combined sewers."*

Response The proponent commits to providing separate sanitary and
stormwater connections to the combined sewer.

4.3 **City of Boston, The Environment Department - June 21, 1991**

Comment 21 *"A description of the proposed ancillary retail space is not presented in
great detail in the DEIR. It is our understand that the retail focus will
be very local and oriented almost exclusively towards serving residents*

of the Dudley Triangle neighborhood. Since traffic impacts on study intersections from development of retail space was assumed to be zero in the DEIR, only a local focus for the retail space would be consistent with the presentation in the DEIR."

Response

The anticipated types of commercial retail uses are described in the response to Comment 1.

Comment 22

"Although not formally a condition of the BLC/PFD agreement, the proponent should also contact the City Archaeologist at 725-3850 on a case-by-case basis to mitigate possible impacts on archaeological resources, as some sites within the Dudley Triangle could potentially be archaeologically significant. The Secretary's Certificate should formalize this contributory role of the City Archaeologist for mitigation of a potential project impact."

Response

This comment was responded to previously, see Response to Comment Number 13.

Comment 23

"Water- and energy-efficient fixtures should be incorporated into the home design process to the maximum possible extent."

Response

The proponent has committed to requiring water conserving fixtures including:

- Toilets - 1.6 gallons per flush maximum
- Showerheads - 3.5 gallons per minute maximum
- Sink Aerators - 2.5 gallons per minute maximum

The heating equipment will exceed the minimum Annual Fuel Utilization Efficiency (AFUE) requirements contained within the Massachusetts Building Code, latest edition. Currently the minimum AFUE of gas furnaces is 68%. The proponent will commit to a using furnaces of 78% minimum AFUE. Due to the significant increase in costs to go from a 78% efficiency model to a 94% efficiency, the proponent cannot commit to such a high efficiency. For example, the 94% AFUE Furnace at 90,000 BTU is

approximately \$1,300 whereas the same burner within 78% efficiency is \$750. The costs are too prohibitive for the proponent to commit to even though in the long run the specific homeowner may achieve cost savings.

Energy efficient refrigerators are not as simple as furnaces to compare efficiencies. Refrigerators are not manufactured with varying efficiencies of the same size model and features. For example, the range of energy cost per year to run an (18 cubic foot refrigerator ranged from \$51 to \$67. The purchase price of the most efficient model, however, did not correlate with the highest price. Different features were available in the different models and cannot be compared based on efficiency alone. Therefore, the proponent cannot commit to a certain efficiency level for the purchase of refrigerators, but will choose appliance with an eye toward energy efficiency.

Comment 24

"Construction and demolition debris generated by the project should likewise be recycled to the maximum feasible extent."

Response

The various portions of the project are all being constructed on vacant lots. There is therefore no generation of demolition debris. The construction debris generated by building construction is the specific contractor's responsibility for removal or recycling. While there is an obvious benefit to the contractor to minimize waste (with recycling of construction materials to the maximum extent), the proponent has little control over the contractors construction methods and subsequent waste generation.

Comment 25

"Since the project involves substantial construction activity within an existing residential area, the proponent should take special care to ensure minimum generation of construction-related dust and noise."

Response

While the overall magnitude of the project results in substantial construction activity within an existing residential area, the individual construction projects are not of a significant size to generate large quantities of dust or noise. There is not a significant volume of earth

moving and only limited need for heavy earth moving equipment. The earthwork construction is that typical for house foundations and driveways.

The community service buildings disturb the largest contiguous area of soil, and therefore require more control of noise and dust. The proposed mitigation for the dust and noise impacts is described in Section 2.10.

Comment 26

"The proponent is also reminded to adhere to all applicable City laws regarding proper construction-period mitigation and acceptable work hours."

Response

The proponent will adhere to all applicable city laws regarding proper construction period mitigation and acceptable work hours. At a minimum the proponent will adhere to the hours referenced in Section 2.10.5, as required by the Boston Inspectional Service Department.

Comment 27

"Inclusion of the retail component in the project should be clearly stated up front together with the other components of the project."

Response

In addition to the discussion in the Response to Comment 1, the general project description was amended to include more information on the retail component (commercial space) of the project.

Comment 28

"The Final EIR should describe in more detail the mitigation measures which will be adopted to avoid the potential flooding problems."

Response

This comment was responded to previously, see Response to Comment 12.

Comment 29

"Section 3.1.6, Hazardous Waste Investigation, was included in response to a BRA request for further study of potential oil or hazardous waste contamination from past uses in the area. Although this study was summarized in the DEIR, the report itself should have

been included as an appendix, and a map indicating the areas described on pages 3-5 through 3-7 should have been included in this section. According to the report, it does not appear that any significant contamination is present on these sites."

Response

The hazardous waste investigation is being provided to the BRA and EOE MEPA unit as requested. It is included as a separate technical appendix to other interested parties available on request. A map is included within the reports showing the block locations as requested. For copies, contact Robert Weidknecht at Beals and Thomas, Inc., Two Westborough Business Park, 200 Friberg Parkway, Westborough, Massachusetts 01581, (508) 366-0560.

Comment 30

"Table 3.2-2 needs some revision, since there are some discrepancies in the translation of buildings into units for the 2- and 3-family developments."

Response

The table of the overall Dudley Triangle development was revised to reflect the latest building program as well as to correct discrepancies, and is included in Appendix C.

Comment 31

"Also, it should be noted that the project is located in Roxbury, not in West Roxbury (cover)."

Response

The cover was revised accordingly.

Comment 32

"The transportation analysis concludes that the proposed project will generate only a limited number of vehicular trips and therefore will not have an appreciable effect on traffic operations. However, we do have some questions concerning the assumptions on which the analysis is based. The trip generation and vehicle ownership assumptions appear to be based on obsolete, 1980 Census data and may not reflect current conditions in the area nor be valid for the characteristics of the future residents anticipated to move into the area. Use of these data result in a rather low estimate of future trip generation which may, in fact, underestimate the actual traffic impacts at the critical intersections. Therefore, some revision of the analysis may be necessary, or further

justification for the use of the 1980 data should be given in the Final EIR."

Response

As described previously, the journey-to-work data supplied by CTPS and used in the EIR are based on 1980 Census data adjusted to reflect the local census taken in 1985. These were the most recent data available during the preparation of the Draft EIR.

It should be noted that the DEIR presented an analysis of project-related traffic impacts at the study area intersections for two Build scenarios-- one which included a 60 percent reduction in project-related vehicle-trip generation, and one which assumed no trip reduction. The analysis results indicate that the same levels of service will be provided at the study area intersections for both Build scenarios.

Comment 33

"It is also noted that there are considerable differences in peak-hour traffic volumes at the studied intersections when comparing the Vanasse Hangen Brustlin study with an earlier Purcell Associates traffic study of the same area (referenced in the DEIR), notwithstanding the three-year differences in the studies. Also, the LOS findings in most instances are considerably different, although this may be attributable to different assumptions and counts. In addition, the Purcell study includes an analysis of the West Cottage St./Blue Hill Avenue intersection, which has experienced a 30% increase in traffic volumes in the last decade. This intersection may need to be examined in the Final EIR to determine the potential impact of the project on it."

Response

A comparison of level-of-service results presented in the VHB and Purcell studies does show some difference in analysis results. In some cases, the VHB analysis indicates a better level of operations than estimated in the Purcell study and in other cases the VHB analysis indicates a lower level of service as compared to the Purcell analysis. These differences are due to the fact that the base volumes used by Purcell were counted in 1988 and the base volumes used by VHB were counted in 1991. In addition, VHB included the effects

of observed lane use and vehicle stacking in the analysis of intersection operations.

The intersection of West Cottage Street and Blue Hill Avenue was not included in the project study area as it was not specifically identified in the MEPA Unit's Scope for the DEIR. However, to address the BRA's comments regarding project impacts at this location, available information was reviewed. Capacity analysis results presented in the Purcell study (see Appendix F) indicate that under 1988 morning and evening peak hour conditions, the Blue Hill Avenue and West Cottage Street intersection operated at level-of-service (LOS) B. Under projected, future 2008 peak hour conditions with improvements, LOS B operations were expected to be maintained. The future demand volumes analyzed in the Purcell study included traffic estimated to be generated by a much more dense redevelopment of the Dudley Triangle neighborhood than is currently proposed. Therefore, the current development program is not expected to have a significant impact on future levels of service at the intersection.

Comment 34

"Furthermore, the Purcell study describes several mitigation measures which are commensurate with the DSNI plans and ought to be included in the FEIR. The FEIR should clearly describe the proposed roadway improvements in the mitigation section of the Transportation Analysis and should summarize mitigation measures for parking, public transportation, and roadway and intersection improvements."

Response

The proposed roadway improvements are described in the response to Comment Number 10.

Comment 35

"The Final EIR should include a map and define the "area" for which data were provided by CTPS regarding journey-to-work and mode choice (page 4-16 and Table 4.0-6)."

Response

A map highlighting the areas considered in the analysis of journey-to-work data is presented in Appendix F.

Comment 36

In addition, in Figure 4.0-8, the number for Magazine Street right turn (45) appears incorrect, since both existing (Fig.4.0-4) and 1995 Build (Fig.4.0-11) indicate only 20."

Response

The right-turn volume from Magazine Street to Dudley Street should be 20, not 45, in Figure 4.0-8 of the DEIR.

Comment 37

"This section of the DEIR describes several conservation and mitigation measures to reduce sewage flows and to manage stormwater discharges. The Final EIR should indicate the commitment of the project proponent to implement these recommended measures."

Response

The commitment to mitigation of all the impacts is included in Section 2.10 of this Final Environmental Impact Report, and as previously discussed in Responses to Comments 11, 12, 23, 24, 25 and 26.

Comment 38

"Also, the FEIR should provide the schedule for the cleaning of the sewers by the Boston Water and Sewer Commission."

Response

Based on a discussion with Stephen Shea, Director of Engineering Design, Boston Water and Sewer Commission on March 16, 1993 there is no schedule for the cleaning of the sewers by the Commission. He stated, however, that in the past two years all of the sewer mains in the streets within the project were cleaned and inspected by television cameras to determine the condition of the pipes. No major problems in the sewer lines were found. Additionally, as specific buildings are constructed, the BWSC will make a determination as to whether the sewer will need recleaning and will perform the work as needed.

Comment 39

"It is also noted that the sewage flow estimates consider only the residential portion of the proposed project; no calculations are included for the commercial retail and community facility space nor for the Town Commons component. This analysis should be revised accordingly to incorporate the flows from the non-residential portion of the proposed development."

Response

The sewage flow estimates on Table 5.3-2 in Appendix D were revised to incorporate the commercial retail and community facility space. The Town Common has no facilities resulting in additional sewage flow. Based on a discussion with Stephen Shea, Director of Engineering Design, Boston Water and Sewer Commission, the existing sewer system can adequately convey the increased flow from the entire project during dry weather. Wet weather flow, however, is undetermined, and is part of a far larger condition that cannot be resolved through the mitigation measures that will be employed for this project alone.

Comment 40

"On Table 5.3-2, the 100-year storm runoff is the same for both existing and proposed conditions (23.0 ac.ft.) but the additional combined flow shows a 0.8 ac.ft. increase. Also, the runoff volumes are not in all cases the same as the volumes given in Table 5.2-1, from which presumably they are taken. These discrepancies should be corrected in the Final EIR."

Response

Table 5.3-2 has been revised to include the commercial and community facilities as well as to correct the initial discrepancies, and is included in Appendix D.

Comment 41

"On Figure 6.0-1, the Dudley Station National Register District also should be included on the map. Furthermore, the Historic Background discussion (section 6.3.3) does not include the Plantation Period (1620-1675) although this period is referenced on page 6-12 with regard to the potential for artifacts. These corrections should be made to the Final EIR."

Response

Figure 6.0-1 was modified to include the Dudley Station National Register District, northwest of the project site and is included in Appendix E of this report.

The Historic Background discussion was modified to reference the Plantation Period more clearly, and is included in Appendix E of this report.

COMMUNITY FACILITY BUILDING PROGRAM

Gail Sullivan

85 Jamaica Street
Jamaica Plain, MA 02130
617 524-1027

DSNI COMMUNITY CENTER
WEST COTTAGE STREET SITE

Type of Space	Size	Total Area Required
A. RECREATIONAL/SOCIAL SPACES		
<u>Lobby and Security</u>		300 sf
<u>Lounge</u> w/ juice bar; TV and VCR available; board games; elder day activities		480 sf
<u>Vending Machines</u>		100 sf
B. RECREATIONAL/SPORTS SPACES		
Gym/multi-use recreation space 50' x 94' basketball, volley ball, exercise classes (7 rows tele- scoping bleacher one side)	83' x 114'	9,462 sf
<u>Exercise equipment room</u> can fit one multi station unit and a few additional stations		600 sf
<u>Equipment storage</u>		240 sf
Locker/shower rooms - 30 people in each 6 individual shower/dressing rooms, lockers for 30 w/ lavs, toilet 2 @	200 sf 350 sf 550 each	1,100 sf
NOTE: Licensed after school day care may use above spaces		
C. EDUCATION/SOCIAL SERVICE*		
<u>2 Meeting/Class Spaces</u> possible moveable partition between; capacity 15 each @	300 sf ea	600 sf
<u>Small Counseling Rooms</u> Counseling rooms for 2 to 4 people Meeting/Counseling rooms for 10 people	2 @ 2 @ 160 sf	120 sf 560 sf

West Cottage Street Center
List of Spaces
Page 2

C. EDUCATION/SOCIAL SERVICE, continued*

<u>Office Space</u> for community center and shared between organizations providing services at center	2,000 sf
<u>Reading Room</u>	600 sf
<u>Sitting Room</u> w/ donated books, 2 adjacent study/tutoring spaces; aquarium; might arrange computer hook-up to public library card catalog;	

D. DAY PROGRAMS

<u>Child Day Care</u> maximum 58 children; (requires 6 to 7 staff) meals cooked in commercial kitchen 2 activities rooms each for 9 toddlers 2 activities rooms each for 20 pre-school 3 offices; meeting room, reception, lavs	4,000 sf
--	----------

E. BUILDING SERVICES

<u>Public Lavatories</u>	400 sf
<u>Elevator, stairs, phone, security, exhibit space, hallways, etc.</u>	3,708 sf

Total Interior Space 24,150 sf

EXTERIOR SPACE

<u>Childcare play area</u> (75 sf/child required) 29 children play at a time	2,175 sf
<u>Wading pool</u> and deck area	500 sf
<u>Sitting Area</u> , minimum	300 sf
<u>Parking</u> .07/1000 for day care; 1/1000 for other community uses;	18 spaces 5,500 sf
Total Exterior Space	8,475 sf

* Possible services which might require office, class or counseling spaces, to be selected later: rehab programs for offenders & substance abusers; housing advocacy; big sister/brother programs; job bank, job training, career counseling; AIDS counseling and advocacy; counseling on health, family, parenting, conflict resolution, and rape; peer counseling for teens; community education classes, training workshops, support groups

Gail Sullivan

85 Jamaica Street

Jamaica Plain, MA 02130

6 1 7 5 2 4 - 1 0 2 7

**DSNI COMMUNITY CENTER
MORELAND/DENNIS STREET SITE**

Type of Space	Size	Total Area Required
A RECREATIONAL/SOCIAL SPACES		
<u>Lobby</u> and Security		300 sf
Lounge w/ juice bar; TV and VCR available; board games; elder day activities		480 sf
<u>Vending Machines</u>		100 sf
<u>Games room</u>		
ping pong	20' x 40'	
pool table	20' x 26'	1,350 sf
<u>Community Function/Meeting Room</u>		2,000 sf
moveable movie screen, portable stage; dance, music, theatre classes; rent out for functions, meetings; moveable partitions to divide into 4 meeting rooms; 150 person capacity when all open storage space included at	200 sf	
B. EDUCATION/SOCIAL SERVICE*		
<u>2 Additional Meeting/Class Spaces</u>		
possible moveable partition between; capacity 15 each @	300 sf ea	600 sf
<u>Small Counseling Rooms</u>		
Counseling rooms for 2 to 4 people	2 @	120 sf
Meeting/Counseling rooms for 10 people	2 @ 160 sf	560 sf
<u>Office Space</u>		
for community center and shared between organizations offering services in center		2,000 sf

-
- * Possible services which might require office, class or counseling spaces, to be selected later: rehab programs for offenders & substance abusers; housing advocacy; big sister/brother programs; job bank, job training, career counseling; AIDS counseling and advocacy; counseling on health, family, parenting, conflict resolution, and rape; peer counseling for teens; community education classes, training workshops, support groups

Moreland/Dennis Street Center
List of Spaces
Page 2

B. EDUCATION/SOCIAL SERVICE SPACES continued

<u>Reading Room</u>		600 sf
Sitting Room w/ donated books, 2 adjacent study/tutoring spaces; aquarium; might arrange computer hook-up to public library card catalog;		
<u>Arts & crafts Rooms</u>		
for classes & activities; available to elder day program, child day care; after school & vacation programs for youth;		
sewing & fabric arts, machines, stor.	500 sf	
painting and ceramics, messy crafts	500 sf	1,000 sf
<u>Media arts center:</u>		
computer room	200 sf	
photo darkroom	100 sf	
production room (building P.A. system, equipment for small recording studio	150 sf	450 sf

C. DAY PROGRAMS

<u>Child Day Care</u>		
maximum 58 children; requires 6 to 7 staff meals cooked in commercial kitchen		
2 activities rooms each for 9 toddlers		
2 activities rooms each for 20 pre-school		
3 offices; meeting room, reception, lavs		4,000 sf
<u>Elder Drop In Day Program</u>		1,400 sf
estimated 50 seniors, needs transportation meals prepared in commercial kitchen; could also use arts & crafts rooms, classrooms, reading room; Child and elder combined day care could be 2 separate programs w/ planned overlap;		
<u>After School Day Care</u>		
maximum 26 children, ages 6 to 14; requires 2 staff; 35 sf/child required; use 2 Meeting/Class spaces listed above as main activity space and use Media Arts Center, Arts and Crafts, Reading Room, etc as additional program space; also use gym and exercise space in other building;.		

D. COMMERCIAL

<u>Commercial Kitchen</u> -- pro chef, serve child and elder day programs, provide cooking classes; provide meals for functions in Community Room	1,600 sf
Xerox/Fax service	200 sf

E. BUILDING SERVICES

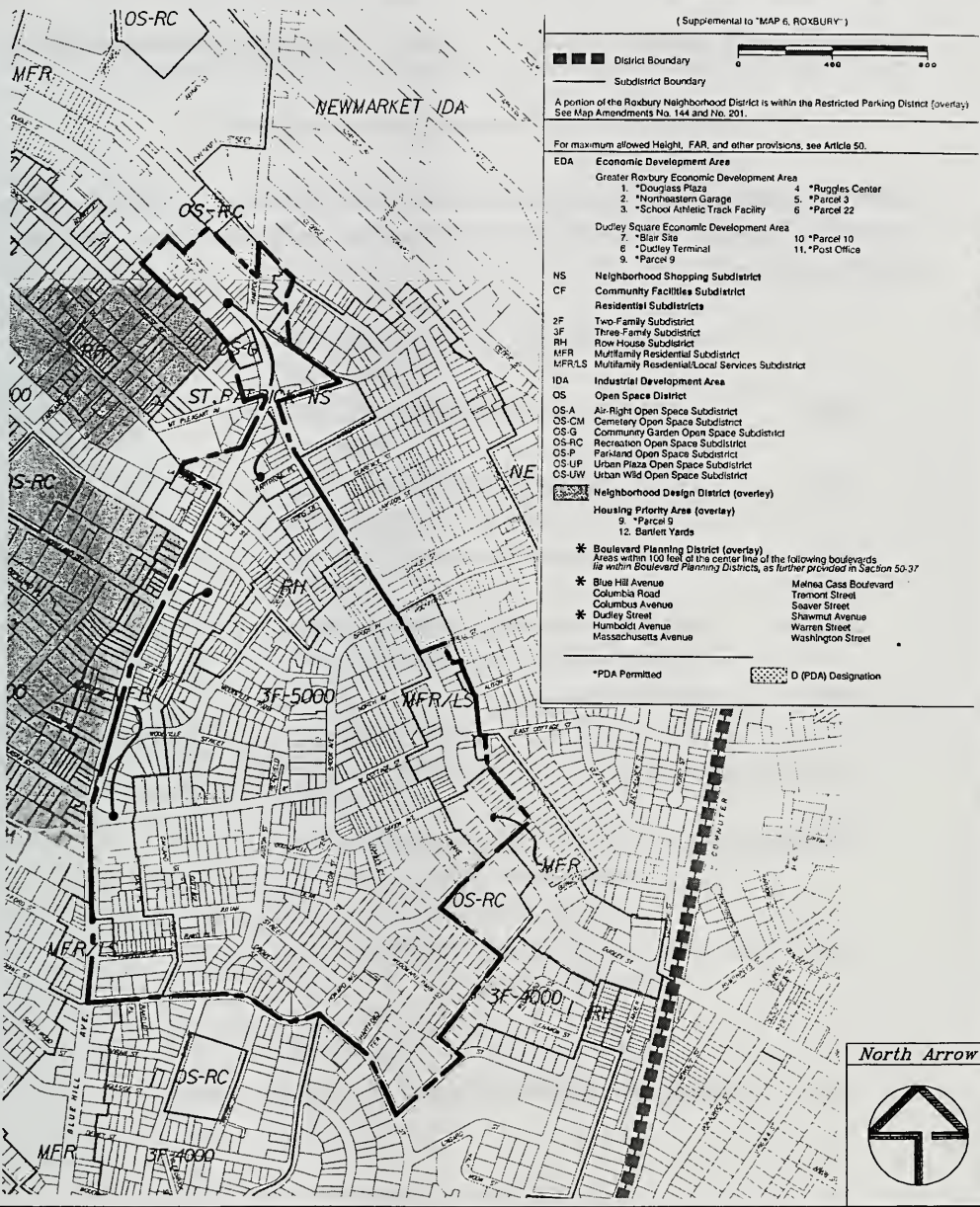
Public Lavatories	400 sf
Elevator, stairs, public phone, security, exhibit space, hallways, etc	3,400 sf
Total Interior space	20,450 sf

Moreland/Dennis Street Center
 List of Spaces
 Page 3

EXTERIOR SPACE

<u>Childcare play area</u>			
(75 sf/child required)			
29 children play at a time	2,175 sf		n
<u>Sitting Area</u> , minimum	300 sf		
<u>Basketball Court</u>			
50' x 94' court, 10' around all sides	7,980 sf		on
<u>Parking</u>			
.07/1000 for day care; 1/1000 for other community uses;	17 spaces	5,500 sf	n n
<u>Loading/Receiving area</u> for Kitchen		800 sf	on
Total Exterior Space	16,755 sf		

ZONING REGULATIONS AND POTENTIAL FULL DEVELOPMENT



For:
Dudley Triangle Neighborhood
 Roxbury, Massachusetts

By:
Beals and Thomas, Inc.
 Westborough, Massachusetts

Zoning Map

Scale: 1"=600' ±

Date: April, 1993

Source:
 Boston Zoning Map 6A & 6C
 Roxbury Neighborhood District

EOEA-7963 EIR Figure B-1

ZONING SUMMARY

The following pages summarize the major requirements in the various zoning districts on the project site. It is the intent of the proponent to comply with all of the zoning regulations, and will only seek variances or special permits in certain cases.

ZONING DISTRICTS ON THE PROJECT SITE

SPNS	St. Patricks Neighborhood Shopping District
OS-G	Community Garden Open Space District
MFR	Multi-family Residential Subdistrict
MFR/LS	Multi-family Residential/Local Service Subdistrict
RH	Rowhouse Subdistrict
3F-5000 Three Family Subdistrict	
Blue Hill Avenue	Boulevard Planning Overlay District (100 feet from centerline)
Dudley Street	Boulevard Planning Overlay District (100 feet from centerline)

Note: The project site is not located within the restricted parking overlay district.

ST. PATRICKS NEIGHBORHOOD SHOPPING DISTRICT

Intent: To encourage smaller retail and community uses which serve the residents in the local area, and encourage the development of neighborhood businesses which provide essential goods and services as well as jobs and entrepreneurial opportunities.

Permitted Uses: (Not all inclusive)
Such uses allowed include:
Banking Uses
Community Uses (religious, education)
Cultural Uses (museum, art, music)
Open Space
Restaurant
Retail (bakery, general retail)
Services (barber, dry cleaner, laundry, shoe repair)

Dimensional Requirements: (Not all inclusive)
45 Ft. max. building height
Max. FAR 1
Min. lot size - none
Min. lot area per dwelling unit - none
Min. useable open space per dwelling unit - 50 square feet
Min. lot width - none
Min. lot frontage - none
Min. front yard - none
Min. side yard - none (except abutting residential)
Min. rear yard - none

OPEN SPACE SUBDISTRICT

(OS-G) Community Garden Open Space Subdistrict

Intent: To provide land appropriate for cultivation of herbs, fruits, flowers or vegetables.

RESIDENTIAL SUBDISTRICTS

(3F) Three Family Residential Subdistrict - 5,000

Intent:

To encourage low density 3-family areas with variety of housing types appropriate to existing fabric including one, two but no more than three-family dwellings.

Permitted Uses:

(Not all inclusive)

Community Uses (place of worship)

Open Space

Residential (group residence, one-family, one-family semi-attached, rowhouse, townhouse, three-family detached, two-family detached, two-family semi-attached)

Community Center is conditionally permitted.

Dimensional Requirements:

(Not all inclusive)

Min. lot area - 5,000 square feet for 1 or 2 units, 2,500 sf additional per dwelling unit over 2 units

Min. lot width - 50 feet

Min. lot frontage - 50 feet

Max. Floor area ratio - 0.8

Max. height - 3 stories, 35 feet

Min. useable open space/dwelling unit - 650 square feet

Min. front yard - 20 feet

Min. side yard - 10 feet

Min. rear yard - 30 feet

RESIDENTIAL SUBDISTRICTS

(RH) Rowhouse Residential

Intent: To preserve, maintain and promote the existing fabric of Rowhouse neighborhoods. There is a limit of 4 dwellings units per individual rowhouse building or townhouse building.

Permitted Uses: (Not all inclusive)
Community Uses (place of worship)
Open Space
Residential Uses (elderly housing, group residences, multifamily dwelling, rowhouse, townhouse)

Dimensional Requirements: (Not all inclusive)
Min. lot area - 2,000 square feet per dwelling unit up to 4 units
Min. lot width - 20 feet per each building
Min. lot frontage - 20 feet for each building
Max. Floor area ratio - 1.0 maximum
Max. height - 3 stories, 35 feet
Min. useable open space/dwelling unit - 200 square feet
Min. front yard - 15 feet
Min. side yard - corner lots see specifics, otherwise 10 feet
Min. rear yard - 20 feet

RESIDENTIAL SUBDISTRICTS

(MFR) Multi-Family Residential Subdistrict

Intent; To encourage medium density multi-family areas with a variety of allowed housing types including one, two and three family dwellings, rowhouses, townhouses and multi-family dwellings.

Permitted Uses: (Not all inclusive)
Community Uses (adult education, community center, library, place of worship)
Open Space
Public service uses (police station)
Residential Uses (elderly housing, group residences, multifamily dwelling, one family semi-attached dwelling, rowhouse, townhouse, transitional housing, three-family detached dwelling, two-family semi-attached dwelling)

Dimensional Requirements: (Not all inclusive)
Lot Area:
1 or 2 family detached - 3,000 sf per building of 1 or 2 units
Rowhouse - 3,000 sf for up to 4 units per building
Other dwelling or use - 4,000 sf for first 3 units
Additional lot area for each additional dwelling unit:
1 or 2 family detached - 3,000 sf per building of 1 or 2 units
Rowhouse - 3,000 sf for up to 4 units per building
Any other dwelling or use - 1,000 sf
Min. lot width - 40 feet
Min. lot frontage - 40 feet
Min. floor area ratio - 1.0
Max. building height - 4 stories, 45 feet
Useable open space, minimum sf per dwelling unit - 200 sf
Min. front yard depth - 20 feet
Min. side yard - 10 feet
Min. rear yard depth - 20 feet

RESIDENTIAL SUBDISTRICTS

(MFR/LS) Multi-Family Residential/Local Services Subdistrict

Intent: To encourage medium density multi-family areas with a variety of housing types including two and three family dwellings, rowhouses, townhouses, multi-family dwellings and ground floor retail.

Permitted Uses: (Not all inclusive)
Community Uses (adult education center, community center, library, place of worship)
Open Space Uses
Public service uses (fire station, police station)
Residential Uses (elderly housing, group residence, multi-family dwelling, one family detached dwelling, one family semi-attached dwelling, rowhouse, townhouse, transitional housing, three-family detached dwelling, two family detached dwelling, two-family semi-attached dwelling)

Dimensional Requirements: (Not all inclusive)
Lot Area:
1 or 2 family detached - 3,000 sf per building of 1 or 2 units
Rowhouse - 3,000 sf for up to 4 units per building
Other dwelling or use - 4,000 sf for first 3 units
Additional lot area for each additional dwelling unit:
1 or 2 family detached - 3,000 sf per building of 1 or 2 units
Rowhouse - 3,000 sf for up to 4 units per building
Any other dwelling or use - 1,000 sf
Min. lot width - 40 feet
Min. lot frontage - 40 feet
Min. floor area ratio - 1.0
Max. building height - 4 stories, 45 feet
Useable open space, minimum sf per dwelling unit - 200 sf
Min. front yard depth - 20 feet
Min. side yard - 10 feet
Min. rear yard depth - 20 feet

FULL DEVELOPMENT

DENSITY IN 1960	1300 HOUSING UNITS	
1980	735 HOUSING UNITS	(OF THAT 102 WERE VACANT)
CURRENT MASTER PLAN	+ 276 UNITS	
PROPOSED DSN I 1989 MASTER PLAN	+ 370 UNITS	
ESTIMATED FULL BUILD	+ 106 UNITS ABOVE DSN I MASTER PLAN	

- PROJECTED DENSITY OF DSN I PROJECT

276 UNITS	(CURRENT MASTER PLAN)
+ 633 UNITS	(755 TOTAL - 102 VACANT)
909 UNITS	

WHICH IS 70% OF 1960 DENSITY

- FULL BUILD DENSITY (ESTIMATED)

339 UNITS	(1989 MASTER PLAN)
+ 633 UNITS	(1980 DENSITY)
+ 106 UNITS	(ESTIMATED INFILL OF VACANT PARCELS)
<hr/>	
1078 UNITS	

WHICH IS 83% OF 1960 DENSITY

REVISED RESIDENTIAL BUILDING PROGRAM (TABLE 3.2-2)

TABLE 3.2-2
Revised 4/12/93
DUDDLEY TRIANGLE DEVELOPMENT PROGRAM

Breakdown by Phase and Building Type

	Single-Family # Bldgs. # Units	Two-Family # Bldgs. # Units	Three-Family # Bldgs. # Units	3-Family # Bldgs. # Units	Row House # Bldgs. # Units	Mixed-Use Bldgs. # Bldgs. # Units	Totals # Bldgs. # Units
Phase One							
Nuestra Comunidad	0 0	10 20	4 12	0 0	3 14	0 0	17 46
Triangle Dev. Assoc.	0 0	19 38	0 0	0 0	0 0	0 0	19 38
TOTAL	0 0	29 58	4 12	0 0	3 14	0 0	36 84
Phase Two							
(Buildable Lots)	0 0	20 40	0 0	0 0	4 14	0 0	24 54
Phase Three							
Brook/Moreland	0 0	8 16	0 0	0 0	0 0	0 0	8 16
Howard/Dean	0 0	17 34	0 0	0 0	0 0	0 0	17 34
TOTAL	0 0	25 50	0 0	0 0	0 0	0 0	25 50
Phase Four	0 0	23 46	0 0	0 0	5 42	0 0	28 88
GRAND TOTALS	0 0	97 194	4 12	0 0	12 70	0 0	113 276

REVISED SEWAGE FLOW ESTIMATE AND REVISED TABLE 5.3-2

TABLE 5.3-2

Total Flow of Sewage and Stormwater Into Municipal System

Units of Acre Feet into Combined System

	Runoff (Ac.Ft.)	Sewage (Building with Conservation)	Total (Ac.Ft.)	% Increase Over Existing Condition
Existing Condition				
10 year storm	13.45	0	13.95	N/A
25 year storm	17.30	0	17.30	
100 year storm	23.22	0	23.22	
Proposed Condition				
10 year storm	14.57	.16	14.73	(See Below)
25 year storm	17.58	.16	17.74	
100 year storm	23.93	.16	24.09	
Total Additional Combined Flow				
10 year storm	0.62	.16	0.78	5.2%
25 year storm	0.28	.16	0.44	1.0%
100 year storm	0.71	.16	0.87	1.4%

In summary, the worst case net increase in the combined flow to the municipal system occurs during the 10 year rainfall event. This results in a 5.2% increase over the existing combined flow which currently enters the system from the Dudley Triangle Area. This small increase could be reduced further by the use of mitigation measures described in the following section.

JOB NO. W-384.07

CLIENT / PROJECT DSN1 - DUDLEY TRIANGLE NEIGHBORHOOD

SUBJECT / TITLE ESTIMATED SEWER USAGE CALCULATION

OBJECTIVE OF CALCULATION

- DETERMINE ESTIMATED SEWER USE BY VARIOUS COMPONENTS OF THE PROJECT

CALCULATION METHOD / ASSUMPTION

- PROJECT PLANS
- SEE ASSUMPTIONS AT VARIOUS COMPONENTS ESTIMATED SEWER USE

SOURCES OF DATA / EQUATIONS

- RESIDENTIAL - ESTIMATED SEWER CONSUMPTION BASED ON WATER CONSERVATION PLAN AS STATED IN DRAFT E.I.R.
- COMMUNITY FACILITIES - TITLE 5 ESTIMATE
- RETAIL - TITLE 5 ESTIMATE

CONCLUSIONS

RESIDENTIAL 32,000 GPD
COMMERCIAL 6,228 GPD
COMMUNITY FAC. 13,000 GPD
51,228 GPD

USE

TOTAL 52,000 GPD = 0.16 CFS

CALC. BY R.E. WEIDENRECHT	DATE 3/24/93	CHECKED BY <i>John D. Sullivan</i>	DATE 3/31/93
------------------------------	-----------------	---------------------------------------	-----------------

ESTIMATED SEWER USE CALCULATION

RESIDENTIAL

HOUSING UNITS 276 * * NOTE: REDUCED FROM 339,
BEDROOMS PER UNIT 2.75 - AS PER SECTION 5.3.1 OF DEIR
TOTAL BEDROOMS 759

SEWER USE 42.3 GPD/BEDROOM (WITH
WATER CONSERVATION,
AS PER SECTION 5.3.1 OF DEIR)

$$759 \text{ BEDROOMS} \left(\frac{42.3 \text{ GPD}}{\text{BEDROOM}} \right) = 32,105 \text{ GPD}$$

COMMERCIAL - RETAIL

POTENTIAL GENERAL DEVELOPMENT AS FOLLOWS:

- 1 LAUNDROMAT WITH 12 WASHING MACHINES (1000 SF)
TITLE 5 = 400 GALLONS/WASH MACHINE/DAY
12 WASHING MACHINES (400 GPD/MACHINE) = 4800 GPD

- 10 DRY GOODS STORES EACH 1,000 SF

$$\begin{array}{l} \text{TITLE 5 - 5 GALS/100 SF} \\ 10 \text{ STORES } \cdot \frac{1000 \text{ SF}}{\text{STORE}} \cdot \frac{5 \text{ GALS/DAY}}{100 \text{ SF}} = 500 \text{ GPD} \end{array} \quad 500 \text{ GPD}$$

- 3 MANUFACTURING FACILITIES EACH 1000 SF

EST. - 1 PERSON PER 500 SF
TITLE 5 - (15 GALS/DAY/PERSON) FACTORY W/O CAFETERIA

$$\frac{3 \text{ FACILITIES}}{\text{FACILITY}} \cdot \frac{1000 \text{ SF}}{\text{FACILITY}} \cdot \frac{1 \text{ PERSON}}{500 \text{ SF}} \cdot \frac{15 \text{ GALLONS/DAY}}{\text{PERSON}} = 90 \text{ GPD}$$

COMMERCIAL - RETAIL (CONTINUED)

- OFFICE SPACE 4500 SF
TITLE 5 - 75 GAL/1000 SF

$$\frac{4500 \text{ SF}}{1000 \text{ SF}} \cdot \frac{75 \text{ GAL/DAY}}{1000 \text{ SF}} =$$

338 GPD

- HAIR SALON 500 SF
TITLE 5 - 100 GAL/CHAIR
EST. - 5 CHAIRS

$$\frac{5 \text{ CHAIRS}}{1 \text{ CHAIR}} \cdot \frac{100 \text{ GAL/DAY}}{1 \text{ CHAIR}} =$$

500 GPD

COMMERCIAL TOTAL 6228 GPD

COMMUNITY FACILITIES

ROUGHLY 650 PEOPLE PER DAY BASED
ON DISCUSSION WITH ARCHITECT GAILSULLIVAN,
MARCH 22, 1993.

TITLE 5 - USE SCHOOL WITH GYMNASIUM, CAFETERIA AND
SHOWERS BASED ON CONVERSATION WITH
STEPHEN SHEA, DIRECTOR OF ENGINEERING
DESIGN, BOSTON WATER AND SEWER COMMISSION,
MARCH 23, 1993. *HE NOTED THAT THIS
WILL RESULT IN A CONSERVATIVELY HIGH
ESTIMATE SINCE TITLE 5 IS CONSERVATIVE WITH
RESPECT TO LATEST PLUMBING CODE AMENOMENTS.
- 20 GPD PER PERSON

$$\frac{650 \text{ PEOPLE} \cdot 20 \text{ GPD}}{\text{PERSON}} = 13,000 \text{ GPD}^*$$

TOTAL SEWER USE

RESIDENTIAL	32,000 GPD
COMMERCIAL	6,228 GPD
COMMUNITY FAC.	13,000 GPD
	<u>51,228 GPD</u>

SAY 52,000 GPD FOR VERY CONSERVATIVE
ESTIMATE

TO CONVERT TO CUBIC FEET PER SECOND

(USING 12 HOUR DAY FOR CONSERVATIVE ESTIMATE, IN
LIEU OF 24 HOUR DAY)

$$\frac{52,000 \text{ GALLONS}}{\text{DAY}} \cdot \frac{1 \text{ GAL}}{7.48 \text{ CF}} \cdot \frac{\text{DAY}}{12 \text{ HRS}} \cdot \frac{1 \text{ HR}}{60 \text{ MIN}} \cdot \frac{1 \text{ MIN}}{60 \text{ SEC}}$$

= 0.16 CFS SEWER USE OF TOTAL PROJECT

15.02: continued

lake, pond, stream, tidal water, watercourse, or open or covered drain tributary thereto, unless approved by the Massachusetts Department of Environmental Quality Engineering.

(12) Connection to Common Sanitary Sewer.* Individual sewage disposal systems or other means of sewage disposal shall not be approved where a common sanitary sewer is accessible adjoining the property and where permission to enter such a sewer can be obtained from the authority having jurisdiction over it. The Board of Health may require the owner or occupant of an existing building or buildings, wherever a common sanitary sewer is accessible in an abutting way, to cause such building or buildings to be connected with the common sanitary sewer in a manner and within a period of time satisfactory to the Board of Health.

(13) Volume of Sanitary Sewage. Each unit of the disposal system shall be designed to treat adequately the estimated volume of sanitary sewage to be discharged from the premises to be served. The volume of such flow should be based on the estimated maximum contributory population and the resultant maximum expected daily quantities of sewage as determined from the table below. No cooling water, ground water, discharge of roof drains, or other uncontaminated water shall be discharged to the sanitary sewage disposal system.

SEWAGE FLOW ESTIMATES **

<u>Type of Establishment</u>	<u>Gallons per Person Per Day</u>
Boarding Schools, Colleges _____	65
Nursing Home and Rest Home _____	100
School, without cafeteria, gymnasium or showers _____	10
School, with cafeteria, but not gymnasium or showers _____	15
School, with cafeteria, gymnasium and showers _____	20
Swimming Pool _____	10
Camp, resident washroom and toilets _____	25
Camp, resident mess hall _____	10
Camp, day washroom and toilets _____	10
Camp, day mess hall _____	3
Camp Ground showers and toilets per site _____	75
Gymnasium per spectator _____	3
Gymnasium per participant _____	25
Theater, Auditorium _____	3
Public Park toilet wastes only _____	5
Public Park bathhouse, showers, and flush toilets _____	10
Factory or Industrial Plant, without cafeteria _____	15
Factory or Industrial Plant, with cafeteria _____	20
Work or Construction Camp _____	50

*The applicant should be aware of his obligation to comply with the requirements established by the Division of Water Pollution Control pursuant to M.G.L. c. 21, s. 43.

**Estimated sewage flows other than those listed should be considered in relation to actual meter readings of established flows from known or similar installations. Generally, estimated sewage flows will be based on 200 percent of average water meter readings in order to assimilate maximum daily flows.

15.02: continued

SEWAGE FLOW ESTIMATES (continued)

	Gallons per day
Single and multiple dwelling units Per Bedroom	
hotels, boarding houses	110
Tennis Club per court	250
Bowling Alley per alley	100
Country Club dining room per seat	10
Country Club snack bar or lunch room per seat	10
Country Club locker and showers per locker	20
Church per seat	3
Church vestry/kitchen per person at capacity	5
Trailer, dump station per site or per trailer	50
Mobile Home Park per site	200
Office Building per 1,000 sq. ft	75
Dry Goods Stores per 100 sq. ft	5
Drive In per stall	5
Nonsingle family, Automatic clothes washer per washing machine	400
Hospital per bed	200
Service station, excluding thruway per island	300
Skating Rink 3,000 gallons per day plus 5 gallons per seat	

Gallons per Seat
or Chair per Day

Restaurant, food service establishment, lounge, tavern	35
Restaurant, thruway service area	150
Restaurant, kitchen flow	15
Barber Shop/Beauty Salon	100

NOTE: Laundromat wastes are considered industrial wastes and must be approved by the Department of Environmental Quality Engineering.

(14) Type of System. Except as provided in 310 CMR 15.18, an individual sewage disposal system shall consist of a septic tank discharging its effluent to a suitable subsurface sewage disposal area as hereinafter described. Where buildings are served by more than one system, each system shall consist of a septic tank discharging its effluent to a suitable subsurface sewage disposal area. Separate systems for laundry waste disposal are not recommended.

(15) Drainage. An individual disposal system shall be located in an area where no surface water will accumulate. Provision shall be made to minimize the flow of surface water over the area.

(16) Cover Material. Earth materials used to cover subsurface sewage disposal facilities shall be free from large stones, frozen clumps of earth, masonry, stumps, or waste construction material. Machinery which may crush or disturb the alignment of pipe in the disposal system shall not be allowed on any part of the disposal area.

(17) Construction in Fill. Where an individual sewage disposal system is to be constructed wholly or partially in fill, the fill shall be properly placed and compacted to minimize settlement or it shall be allowed to settle for a minimum of 12 months whichever occurs first. The fill material shall be clean coarse washed sand or other clean granular material essentially free from clay, fines, dust, organic matter, large stones, masonry, stumps, frozen clumps of earth, wood, tree branches, and waste construction material, and shall have a percolation rate of less than 2 minutes per inch before and after placement. Before the fill is put in place, all trees, brush, and stumps shall be removed from the area to be filled. Topsoil, peat, and other impervious materials shall be removed from all areas beneath the leaching facility and for a distance of 25 feet in all directions therefrom when the leaching facility is above natural ground elevation; or impervious materials shall be removed for 10 feet in all directions therefrom when the leaching facility is below natural ground elevation. No sewage disposal system shall be constructed in fill placed upon

HISTORICAL BACKGROUND REVISIONS AND REVISED FIGURE 6.0-1

APPENDIX E

6.3.3 Historic Background

Contact Period (1500-1620) and Plantation Period (1620-1675)

"During the Contact Period (1500-1620) European sailors fished for cod in Massachusetts Bay and traded with the coastal natives for beaver pelts and other furs. Native population was low as a result of the plague of 1616-1617 which nearly depopulated the region. A native trail connecting the Roxbury highlands with the Boston peninsula probably ran to the northwest of the project area, "although no native settlements have been located." (Gallagher 1989)

Large scale Puritan immigration to the Massachusetts Bay Colony occurred starting in 1630, following the landing of the Pilgrims at Plymouth Rock on 1620. The Town of Roxbury was settled in 1630 at John Eliot Square (north of the project site). Its fields and woods were strewn with rocks..." (Gallagher 1989). "When Roxbury was founded, the only land route to Boston for both Roxbury and other mainland towns was across the neck, an isthmus across tidal marshes with Back Bay to its west and south and Dorchester Bay to its east. It was so narrow in places that it often flooded in the spring. The neck followed the route of the present day Washington Street (and the Orange Line) from Dudley Station to Essex Street (north of the project area). All land routes necessarily passed through Roxbury, making it a major crossroads. One main road radiated from the nucleus of settlement around Meeting House Hill - the road to Dorchester, now Dudley Street (that forms one boundary of the project area)." (Bower 1979).



for
**Dudley Triangle
 Neighborhood**
 Roxbury, Massachusetts

by
Beals and Thomas, Inc.
 Westborough, Massachusetts

Historic District Map

Scale: 1:25000

Date: February, 1991

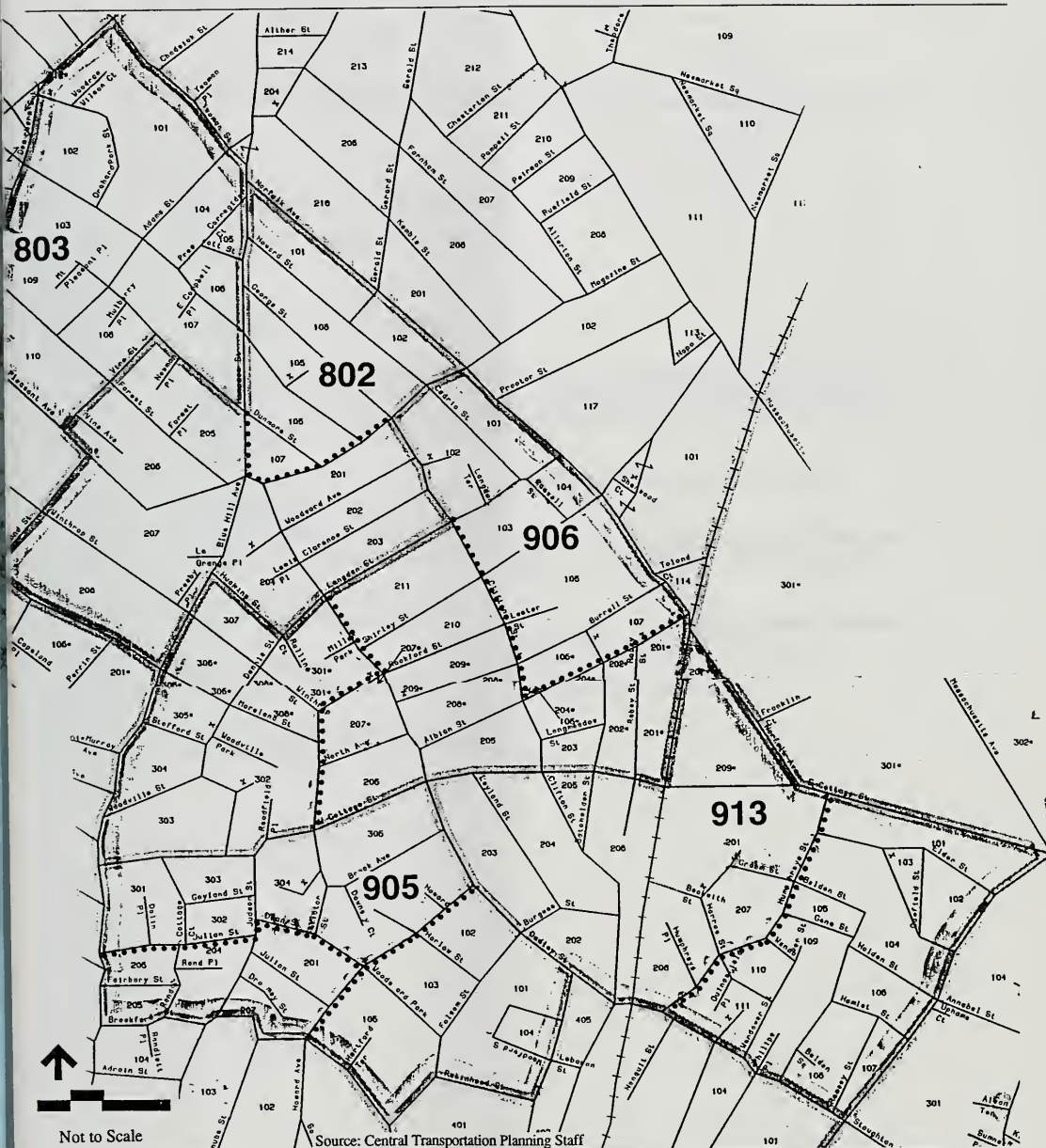
Source: USGS Boston South Quadrangle
 photorevised 1979

Massachusetts Historical Commission Files

EOEA-7963 EIR

Figure 6.0-1

TRANSPORTATION INFORMATION



Dudley Triangle Census Map

Figure 4.0-1

BLUE HILL AVENUE AT WEST COTTAGE AND ALASKA STREETS

EXISTING CONDITIONS

Blue Hill Avenue at this intersection experiences mixed land use. The west side is predominantly residential while the east side has new residential construction, a Goodyear Tire service and a used car sales lot. Six properties of historical and/or architectural significance extend along the west side of Blue Hill Avenue. It is anticipated that these properties will not be physically affected by any proposed development.

Existing traffic signals at this intersection have a two-phase controller. This intersection, however, does not satisfy minimum vehicular or pedestrian volume warrants for signalization as stipulated by the MUTCD. This intersection is presently operating at a very satisfactory level of service, however, requires retiming for future traffic operations.

Existing surface is bituminous concrete on Blue Hill Avenue with vertical granite curb on both sides as is West Cottage and Alaska Streets.

Blue Hill Avenue is 40 feet wide on either side of the intersection. West Cottage Street is generally 24 feet wide and widens to approximately 73 feet in width at the intersection. Alaska Street is 25 feet wide.

Two bus stops are present, one at the northern corner of Blue Hill Avenue and West Cottage Street, the other diagonally across Blue Hill Avenue at the corner of Irwin Avenue.

PROPOSED IMPROVEMENTS

The proposed geometric revisions at this intersection include the realignment of West Cottage Street at Blue Hill Avenue by the widening of sidewalks on West Cottage Street. The dividing island on West Cottage Street is to be removed in order to facilitate the turning movements of non-passenger vehicles (WB-50).

It is proposed that the signals at this location remain although they do not satisfy any warrant for signalization.

The City of Boston has conducted several neighborhood informational meetings and the residents have strongly objected to signal removal based upon pedestrian needs of the elderly and the presence of a school in the vicinity of this intersection.

The existing post mounted traffic signals and controllers are proposed to be replaced with new equipment. Existing signal phasing will be retimed and revised to include an exclusive pedestrian phase.

The overall intersection level of service operation can be maintained for future traffic.



LEGEND



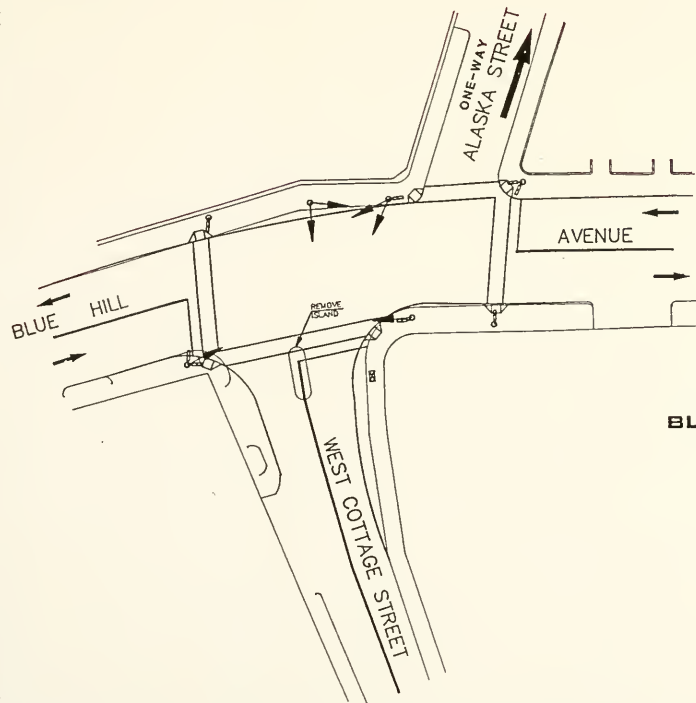
EXIST. SIGNAL HEAD



EXIST. PEDESTRIAN HEAD



EXIST. CONTROLLER



BLUE HILL

STREET

AVE.

WEST
COTTAGE
STREET

PROJECTED TURNING VOLUMES

(000) AM PEAK HOUR
(000) PM PEAK HOUR

(49) 999 (6) 1 (410) 947 (421) 967 (6) 20

8 (12) 040 (815) 597 782 36 (41)

614 (778)

(47) 56 62 (38) 74 (62) 6 (7) 17 (18)

BLUE HILL

STREET

AVE.

WEST
COTTAGE
STREET

1988 TURNING VOLUMES

(000) AM PEAK HOUR
(000) PM PEAK HOUR

(344) 652

8 (11) 524 (585) 482 (544) 34 (40)

(5) 1 (306) 602 (317) 622 (6) 19

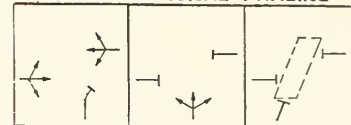
498 (559)

(46) 53 50 (38) 71 (60) 6 (7) 16 (15)

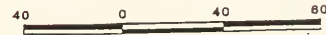
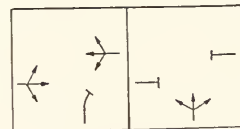
INTERSECTION LEVEL OF SERVICE

EXISTING CONDITIONS		EXISTING CONDITIONS W/ FUTURE VOLUMES		FUTURE VOLUMES W/ IMPROVEMENTS	
AM	PM	AM	PM	AM	PM
B	B	E	*	B	B

PROPOSED SIGNAL PHASING



EXISTING SIGNAL PHASING



BLUE HILL AVENUE AND DUDLEY STREET
TRAFFIC IMPROVEMENTS
BOSTON, MASSACHUSETTS

BLUE HILL AVENUE AT
WEST COTTAGE ST.

PURCELL
ASSOCIATES

MAY 1990. SCALE: 1" = 40' FIG. NO.25

BLUE HILL AVENUE AT DUDLEY STREET TO HAMPDEN STREET

EXISTING CONDITIONS

BLUE HILL AVENUE/DUDLEY STREET/MAGAZINE STREET/ MT. PLEASANT STREET

This intersection is the last intersection on Blue Hill Avenue inbound to Boston. The western side on Blue Hill Avenue is highly commercial in nature, while a large portion of vacant land being planned as a neighborhood park is located on the eastern side. Dudley Street, Mt. Pleasant Street and Magazine Street, at this intersection, are predominantly residential in nature. Parallel parking is allowed on both sides of Blue Hill Avenue, Dudley Street, Mt. Pleasant Street and Magazine Street.

The existing roadway surface on Blue Hill Avenue, Dudley Street, Mt. Pleasant Street and Magazine Street is bituminous concrete with vertical granite curbing.

Four MBTA bus stops are located at this intersection. Two are located on Blue Hill Avenue on each side directly opposite one another, and the other two are located similarly on Dudley Street.

Pavement width on Blue Hill Avenue is 40 feet and 26 feet on Mt. Pleasant and Magazine Streets. On Dudley Street, the roadway width is 40 feet east of intersection and tapers from 65 ft. to 42 ft. within a distance of 250 ft on the west.

The existing traffic signals at this intersection are operating with a 3-phase controller and an exclusive pedestrian phase. This intersection suffers major congestion and delay during the A.M. peak hour and is presently oversaturated during the P.M. peak hour.

This intersection recorded the highest motor vehicle accidents (32) within the project corridor during the period from May 1985 to May 1988.

DUDLEY STREET/HAMPDEN STREET/DUNMORE STREET

This Intersection is located in the vicinity of a church and an area with commercial and residential units. A vacant lot and an auto repair shop are located on the western corners of Hampden Street, while the eastern side is predominantly occupied by residential units. Ten properties of historical and/or architectural significance are located at this intersection. Five are located at the corner of Hampden and Dunmore Streets, and the other five are directly opposite this corner on the south side of Dudley Street.

Pavement width on Dudley Street is approximately 42 ft. on either side of intersection. Hampden Street has a pavement width of 33 ft. Dunmore Street is one way easterly and 16 ft. wide. The existing surface on both streets is bituminous concrete with vertical granite curbing on all the sides.

Two MBTA bus stops are located at this intersection. One is on the western corner of Dudley Street/Hampden Street, and the other is directly opposite on the south side of Dudley Street.

The existing traffic signal at this intersection has a two-phase controller with an exclusive pedestrian phase. Due to the close proximity of and non-synchronization with the signals at Blue Hill Avenue/Dudley Street, considerable delay and congestion occur at this intersection during the A.M. and P.M. peak hours.

PROPOSED IMPROVEMENTS

The proposed geometric revisions within this location include:

Blue Hill Avenue: The northbound approach to this intersection is to be widened to accommodate an additional northbound lane.

Magazine and Mt. Pleasant Streets: Existing geometry will be retained.

Dudley Street: The northbound approach to Magazine Street is to be revised to include an additional lane. The implementation of this lane will be accomplished without curb line modifications. Parallel parking will be eliminated along the eastern curb line.

Dudley Street, between Magazine Street and Hampden Street, will be modified to include two northbound and two southbound lanes, divided by a two-foot rubble block strip. These modifications will be accomplished without reducing the width of existing sidewalks. All parallel parking is proposed to be eliminated.

At the southbound approach to Hampden Street, an additional travel/turning lane is proposed. This lane can be accommodated by the elimination of parallel parking along the curb line.

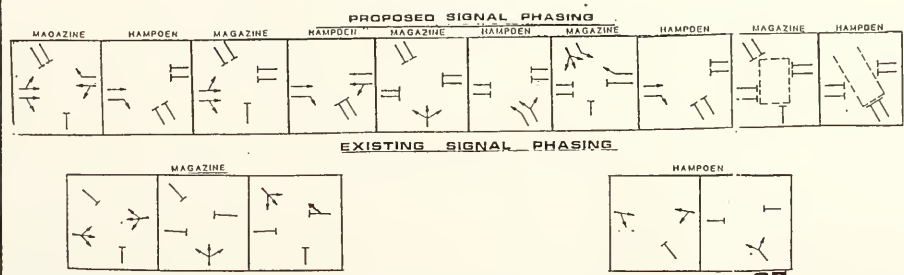
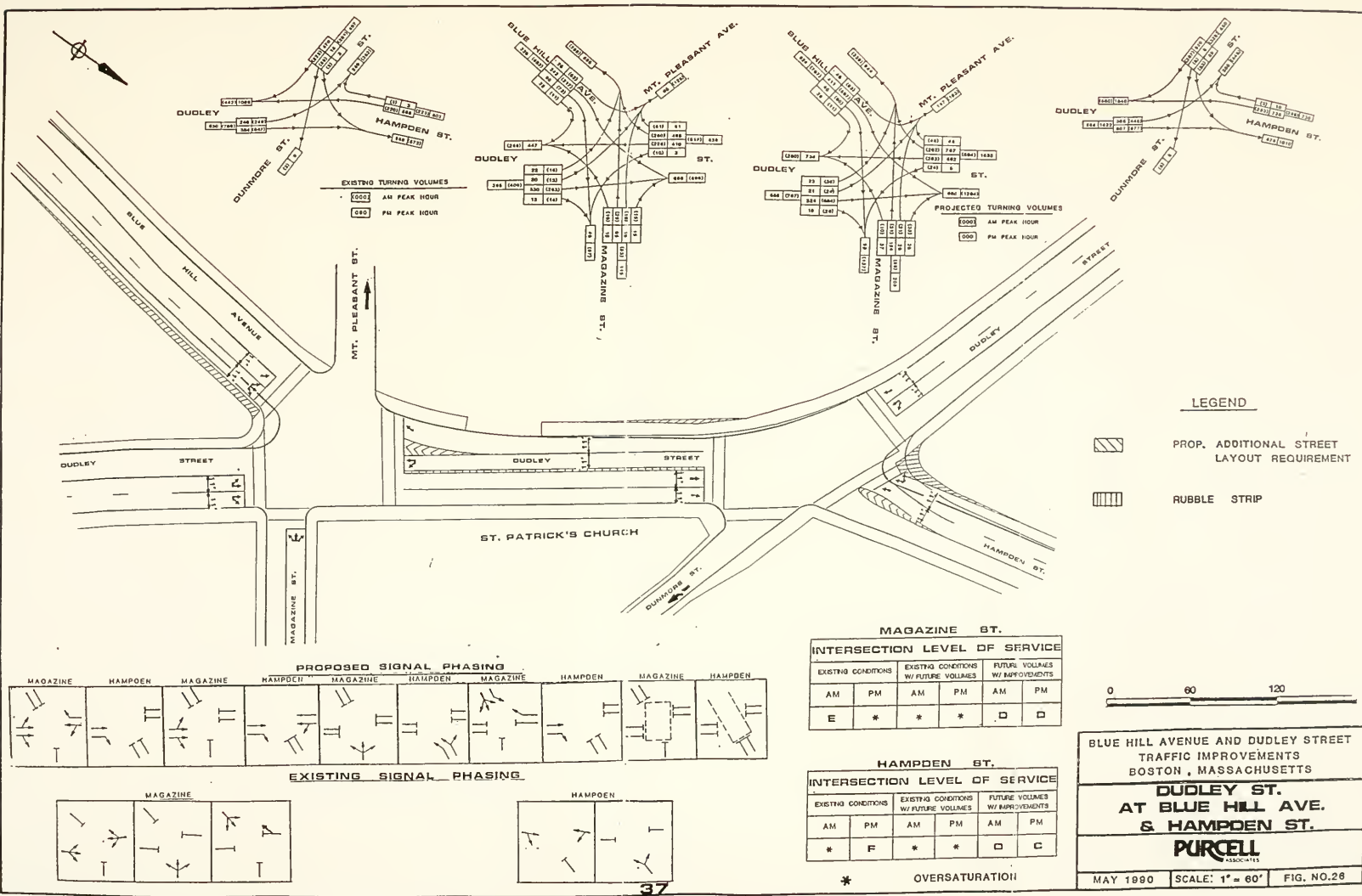
Dunmore Street: No geometric revisions are proposed at this location.

Hampden Street: At the intersection with Dudley Street, it is proposed to widen and construct an improved turning radius. It is also proposed to create two southbound lanes on Hampden Street approaching Dudley Street from Eustis Street, a distance of approximately 300 feet. All parallel parking along the western curb line of Hampden Street is to be eliminated.

The proposed widening and relocation of curb line shall occur within an existing vacant lot presently being planned as a neighborhood park.

Proposed signalization improvements at each location will include installation of mast arm mounted traffic signals and two semi-actuated controllers with exclusive pedestrian phases. Phasing at these locations will be interconnected to operate as a single major intersection. These improvements will upgrade the existing level of service to a satisfactory operational level of service for both the A.M. and P.M. peak hour periods.

138452



MAGAZINE ST.

INTERSECTION LEVEL OF SERVICE

EXISTING CONDITIONS		EXISTING CONDITIONS W/ FUTURE VOLUMES		FUTURE VOLUMES W/ IMPROVEMENTS	
AM	PM	AM	PM	AM	PM
E	*	*	*	D	D

HAMPDEN ST.

INTERSECTION LEVEL OF SERVICE

EXISTING CONDITIONS		EXISTING CONDITIONS W/ FUTURE VOLUMES		FUTURE VOLUMES W/ IMPROVEMENTS	
AM	PM	AM	PM	AM	PM
*	F	*	*	D	C

* OVERSATURATION

LEGEND

PROP. ADDITIONAL STREET LAYOUT REQUIREMENT

RUBBLE STRIP

0 60 120

BLUE HILL AVENUE AND DUDLEY STREET TRAFFIC IMPROVEMENTS BOSTON, MASSACHUSETTS

DUDLEY ST. AT BLUE HILL AVE. & HAMPDEN ST.

PURCELL
ASSOCIATES

MAY 1990 SCALE: 1" = 60' FIG. NO.26

DUDLEY STREET AND HARRISON AVENUE

EXISTING CONDITIONS

The Dudley Street approach to the intersection is the corridor project limit. Activities in the vicinity of this intersection are predominantly commercial. Parallel parking is permitted on both sides of Dudley Street and Harrison Avenue.

Existing surface on Dudley Street and Harrison Avenue is bituminous concrete with vertical granite curbing on sides of both roadways. Pavement width on Dudley Street is 38 feet while Harrison Avenue is 40 feet wide.

The existing traffic signal is operating with a 3-phase controller. The fire station on Dudley Street preempts the signals to allow fire apparatus to clear the intersection during an emergency. An MBTA bus terminal located at the junction of the Warren Street and Dudley Street intersection causes considerable delay and congestion during peak hours. This intersection is operating at a satisfactory level of service for both the A.M. and P.M. peak hour periods.

This intersection has the fourth highest reported motor vehicle accidents (11) within the project corridor during the period from May 1985 to May 1988.

PROPOSED IMPROVEMENTS

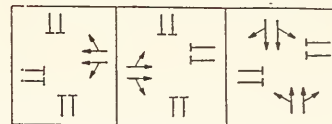
No geometric revisions are proposed at this location.

It is proposed to retain existing traffic signals and provide a new controller to accommodate the proposed exclusive pedestrian phase.

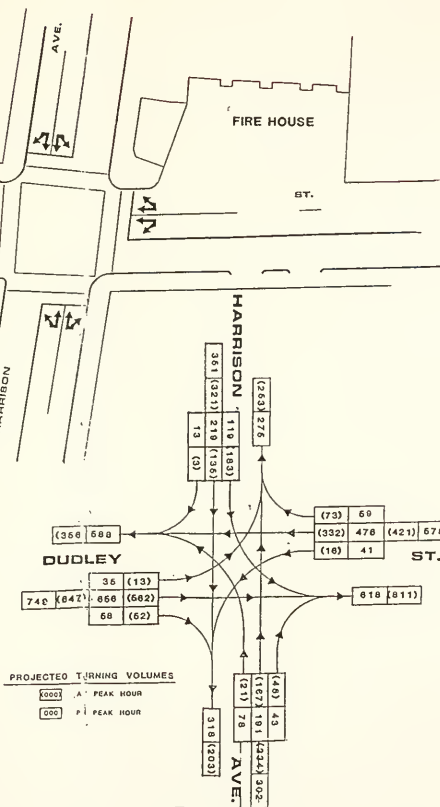
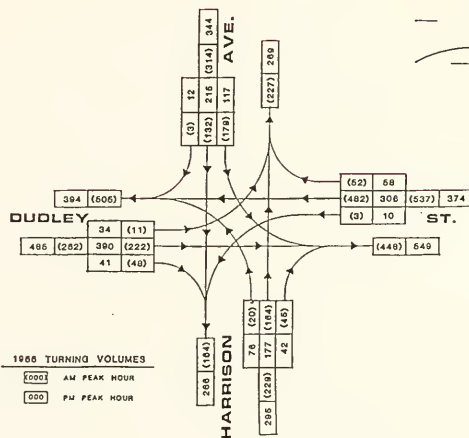
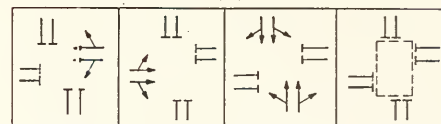
Overall intersection level of service operation will be maintained for the A.M. peak hour. However, due to future increase in traffic volumes, a slight reduction in the level of service will be experienced during the P.M. peak hour.

INTERSECTION LEVEL OF SERVICE					
EXISTING CONDITIONS		EXISTING CONDITIONS W/ FUTURE VOLUMES		FUTURE VOLUMES W/ IMPROVEMENTS	
AM	PM	AM	PM	AM	PM
C	C	C	C	C	D

EXISTING SIGNAL PHASING



PROPOSED SIGNAL PHASING



BLUE HILL AVENUE AND DUDLEY STREET
TRAFFIC IMPROVEMENTS
BOSTON, MASSACHUSETTS

DUDLEY STREET
AT HARRISON AVENUE

PURCELL
ASSOCIATES

MAY 1990 SCALE: 1" = 60' FIG. NO. 27

